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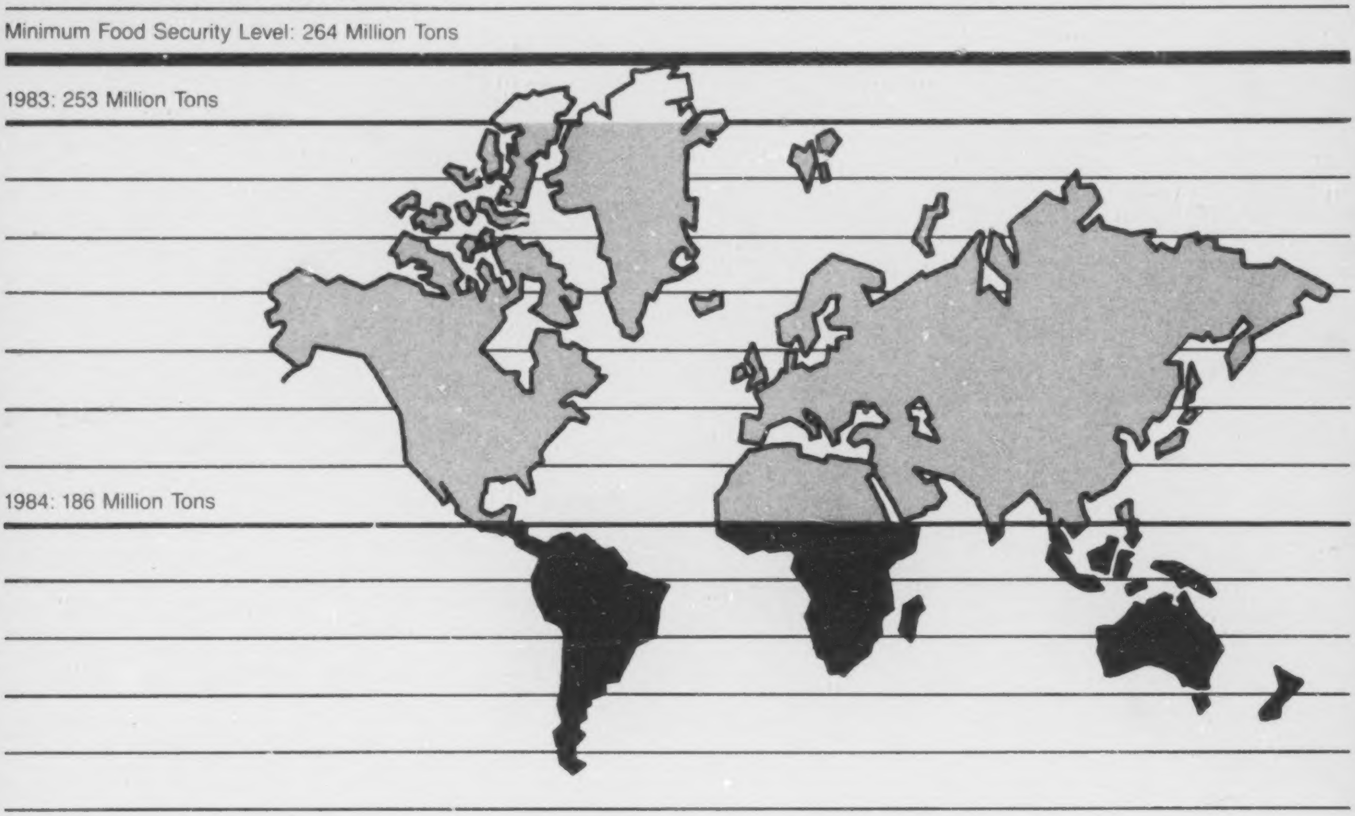
World Food Trade and U.S. Agriculture, 1960-1983



Total World Grain Stocks

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Abstract

World grain production declined by 5 percent in 1983-84, with total production dropping to the lowest level in three years. Factors behind the reduced production included the U.S. Payment-In-Kind Program, the most severe drought in the United States since the mid-1930s and adverse weather in Africa and parts of Europe. Global grain carryover stocks fell sharply by late summer 1984 to levels below minimum standards for world food security, with much of the decrease being in U.S. stocks.

After a two-year decline, world grain exports recovered only slightly in 1983-84 and remain moderately below the record 1980-81 level. Competition in international trade and a strong U.S. dollar have reduced United States shares of global exports in the last three years, with the largest decreases being in grains, oilseeds and oilseed products. While the Payment-In-Kind Program reduced U.S. crop plantings, certain other nations expanded their grain area—especially wheat. This trend also appears to have contributed some to erosion of the U.S. share of international grain trade. U.S. exports of all farm products in dollar value in 1982-83 dropped about one-fifth below the 1980-81 record. An accompanying increase in agricultural imports brought a moderate decline in the U.S. net trade balance in agricultural products. Declining exports have intensified financial pressures in agriculture and adversely affected incomes and employment in agriculturally related industries and rural communities. U.S. and world agricultural exports in value terms are expected to be up slightly in 1983-84 and may trend modestly upward in the next several years. However, high real interest rates and slower world economic growth appear likely to hold export expansion below the rapid growth rates of the 1970s as the world adjusts to public and private debt burdens.

With the current economic environment, trade relationships among exporting nations are being seriously strained. Political pressures in the United States and its major trading partners are moving in the direction of increased protectionism and export subsidies as ways of resolving current problems. However, a higher payoff would seem likely from policy alternatives directed toward the underlying causes of sluggish world trade—including slow economic growth, high interest costs, exchange rate problems and debt burdens. U.S. and world agriculture will have an important stake in the outcome of trade policy developments in the years immediately ahead.

Key words: Grain, oilseeds, corn, soybeans, wheat, agricultural exports, global food, world agricultural trade, U.S. trade, trade policies, agricultural imports, Soviet grain imports, Chinese grain imports, world livestock production, variable levies and threshold prices.

By Robert N. Wisner, professor of economics, and Craig A. Chase, graduate research assistant, Department of Economics. Edited by Brian R. Holding, editor, Center for Agricultural and Rural Development and North Central Regional Center for Rural Development.

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Foreword

The World Food Institute of Iowa State University was established in 1972 by the Iowa Board of Regents to focus the university's "competencies and leadership upon the provision of adequate and nutritious food supplies for the world's peoples through research and education." An annual report on the changing patterns of world food trade and their implications for U.S. agriculture was recommended by the Faculty Policy Committee of the World Food Institute in 1980. Its purposes are (1) to disseminate a comprehensive but understandable picture of the world food situation, the role of U.S. agricultural exports in world trade, and the impact of trade on U.S. agriculture and (2) to identify emerging issues that will influence U.S. and world agricultural trade. It is intended to serve as a resource for scholars and citizens, for producers and consumers, for policy-makers and for others who are concerned with alleviating the world's food problems. Robert N. Wisner, professor of economics at Iowa State University, has directed this project from the beginning.

The first annual edition of *World Food Trade and U.S. Agriculture, 1960-1980* was released in October 1981 in conjunction with the first annual observance of World Food Day. This fourth report extends the analysis of patterns of world food trade in 1983 with some projections into 1984. For example, carryover stocks of corn and soybeans are expected to approach minimum working needs of the grain trade by October 1, 1984, according to authors Robert Wisner and Craig Chase. Why? Because in 1983, acreage planted to these crops in the United States was reduced by the Payment-In-Kind program. A severe drought in the U.S. reduced yields even further. Weather and policy together thus resulted in a decrease in production; at the same time a sluggish world economy decreased the rate of growth in utilization of grains globally. Now, trading partners are being pressured to consider protectionist trade policies.

Although the dollar value of U.S. agricultural exports in 1983-84 is likely to increase slightly due to higher prices, Wisner and Chase expect the actual tonnage to be similar to that in 1982-83. Reduced exports from the United States in the past two years have caused concern because employment and income have been reduced not only for producers but also for people in agriculturally-related industries such as farm supplies, processing, marketing and transportation, and in nonfarm businesses as well.

Wisner and Chase have reviewed a complex mixture of factors influencing export of agricultural commodities and products by the USA, examined trends since 1960 and presented data graphically for readers. They conclude that U.S. exports and world trade of agricultural products will increase gradually in the next few years as the world economy improves, but that growth will be substantially slower than it was in the 1970s.

The World Food Institute and its policy committee hope that this annual publication will help readers understand the many interrelationships that exist among and within food-exporting and food-importing nations. We are very pleased that Dr. Wisner and Mr. Chase have been able to summarize not only large amounts of information into tables and graphs but also have provided concise comments on the significance of the trends in world food production, utilization and trade. In this edition, the authors have used fewer tables and more graphs than in the third. Suggestions from readers for changes to make future editions more useful will be appreciated.

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Summary and Implications

In the past year, world grain and oilseed supplies have tightened substantially, following the 1983 U.S. Payment-In-Kind Program for reducing crop plantings and the most severe U.S. drought since the mid-1930s. With the exception of Africa and some parts of Europe, most other major grain-producing areas of the world experienced generally favorable weather and crop yields in the 1983-84 trade year. However, reduced production in the United States, Africa and Europe pushed global production of all grains 5 percent below the previous year—to the lowest level since 1980-81. World production in the July 1983-June 1984 trade year was about 5 percent below global utilization, with the gap being filled by a sharp decline in stocks. U.S. stocks fell much more sharply than in other areas, with corn and soybean carryover stocks expected to be near the minimum working needs of grain trade by October 1, 1984. The decline in supplies was concentrated in coarse grains, with U.S. and world food grain supplies remaining large. With tight coarse grain supplies, utilization of wheat for livestock and poultry feed has increased world-wide during the past year.

Global grain utilization grew much more slowly in 1983-84 than the average growth rate of the previous five years. After a two-year decline, global grain trade increased by approximately 2 percent or 3.9 million metric tons during the past year but remained 5 percent below the 1980-81 record. Growth in U.S. and world grain trade continued to be restrained by a sluggish expansion of the world economy, high real interest rates, large debt burdens in many developing nations and a strong U.S. dollar. Strength of the dollar brought upward pressure on costs of petroleum and grain in importing nations, thus restraining general economic activity and purchases of U.S. grains and oilseeds.

Early signs point to increased U.S. and world grain and oilseed production in 1984-85, with a partial rebuilding of world carryover stocks. However, it is unlikely that stocks would be replenished to fall 1983 levels in one year's time. A gradually improving world economy may generate slightly accelerated growth of global farm product utilization and exports in the year ahead. Even so, financial problems are expected to hold growth during the next few years below the extremely rapid rates of the 1970s as the world continues its adjustment to substantial debt problems.

Already serious food problems in Sub-Saharan Africa worsened in 1983-84 as a lingering drought in that part of the world intensified. In China and the Indian subcontinent, food production ranged from generally satisfactory to exceptionally favorable during the past year. Some localized production problems occurred in Latin America, partly as a result of unfavorable weather. Longer-term food production prospects in Sub-Saharan Africa remain clouded and programs to expand food supplies in that region will need to be given high priority during the next several years.

The U.S. shares of global wheat, soybean, soybean products and poultry meat exports decreased slightly in the past year; the U.S. pork export share remained relatively stable, and U.S. beef trade share increased slightly. Total U.S. exports of all farm products declined in fiscal 1982-83 (October-September) for the second consecutive year, with the total dollar value dropping to $34.8 billion. Exports at that level were 21 percent below the record set two years earlier but were more than twice as large as the dollar value of exports a decade ago. U.S. agricultural imports rose by 6 percent from the previous year and brought a moderate decline in the net U.S. trade balance in farm products. Early indications are that the dollar value of U.S. agricultural exports will increase slightly in 1983-84 as a result of higher prices for several major commodities. However, on a tonnage basis, total farm product exports are expected to remain approximately constant in fiscal 1983-84 at levels moderately below the 1980-81 record.

The recent downward trend in agricultural exports is a matter of serious concern. With exports in recent years absorbing approximately one-third of the nation's crop production and generating a corresponding share of farmers' cash receipts from farm marketings, the lower export levels have contributed to U.S. farm financial problems. Temporary financial relief was provided to some parts of the nation's agriculture by the Payment-In-Kind Program, but the underlying causes of reduced exports are still present. Reduced exports also have brought reduced employment and income in the farm supply, processing, marketing, transportation and other agriculturally related industries. In addition, farm income problems have a negative effect on nonfarm businesses in rural communities.

Early indications are that U.S. exports and world agricultural trade will increase gradually in the next few years as the world economy resumes its upward course and repayment periods for debts of developing nations are lengthened to reduce foreign exchange requirements for debt servicing. However, even with these adjustments, an extended period of substantially slower world economic growth than in the 1970s appears likely. Economic growth of the previous decade was fueled to a considerable extent by the sharp build-up of public and private debt, and several years of adjustment will be required before current problems are resolved.

In an environment of relatively steady to slightly declining global agricultural trade, major trading partners are facing strong pressures to maintain or increase their shares of global exports. Tools being used for this include export subsidies, price cutting and special financial assistance to importers. At the same time, most trading partners are experiencing an increasingly protectionist mood by domestic industries facing import competition. In this setting, danger of a serious world trade war continues to exist. Similar conditions in the 1920s resulted in severe trade restrictions of the 1930s with a resulting sharp drop in global trade. The lessons of half a century ago are a strong caution indicating a need to resist temptations to move toward increasingly protectionist trade policies. A more reasonable approach to current trade problems might be for major trading nations to work jointly to provide relief from the root causes of slow growth in world trade. The current trade environment has its roots in monetary and fiscal policy of the United States and other major industrial nations, high real interest rates and the world debt problem. There are no easy solutions to these difficulties, but increased attention in this area may be more fruitful than the current trend toward protectionism.

Global food security remains an important issue for people of most developing nations and will continue to be of concern in the foreseeable future. Food security encompasses a complex set of issues with both short- and long-run dimensions. From a short-run standpoint, global food security is of greater concern now than a year ago, with world grain stocks dropping moderately below levels generally considered minimum standards for world food security. Short- and long-run world food security has important implications both for world peace and well-being of people of the developing world.

Introduction

Fiscal year 1983 marked the second consecutive annual decline in U.S. agricultural exports, with total farm product exports dropping 21 percent below the 1981 record. At the currently reduced level, the nation's agricultural exports unadjusted for inflation still were more than twice as large as a decade earlier. However, in an industry such as U.S. agriculture, where production capacity greatly exceeds domestic demand, the shrinking export market is a matter of serious concern. With exports normally absorbing about one-third the output from the nation's cropland and providing about one-third of the cash receipts from farm marketings, declining exports have contributed significantly to recent severe financial pressures in American agriculture. Reduced export demand also has generated reduced levels of employment and income in farm supply, marketing and processing industries and in non-farm businesses located in rural communities. The Payment-In-Kind Program (PIK) for reducing crop production provided some temporary relief from these pressures for some farmers. And with the PIK and drought-reduced 1983 U.S. crop production, higher farm product prices are expected to bring a small increase in the value of October 1983-September 1984 agricultural exports. However, the physical volume of total farm product exports is showing little indication of recovery, and the underlying causes of weak export demand remain.

While exports were declining, U.S. agricultural imports increased slightly in the 1982-83 fiscal year. Thus, agriculture's positive contribution to the nation's balance of trade dropped to the lowest level in four years.

In the world picture, global grain exports declined for two consecutive years (1981-82 and 1982-83) and now appear to have stabilized. That is in sharp contrast to the upward trend of the 1970s when world grain trade expanded in 9 out of 10 years with an average growth rate of approximately 10 million tons (400 million bushels corn equivalent). In some commodities, the U.S. share of global exports is in a downward trend due to intensified foreign competition. What are the reasons for the lower level of world farm product trade? What role do global economic and financial problems play in reducing U.S. exports and trade shares? Has foreign agricultural production expanded sharply to offset the U.S. Payment-In-Kind Program? If so, where is the expansion occurring? This report is intended to provide answers for these and other critical questions facing U.S. and world agriculture currently and in the years immediately ahead. It also explores important trade policy issues emerging from current pressures of trading partners to maintain or expand their respective shares of a shrinking total world trade in key farm products. Finally, the report explores potential future trends in U.S. farm product exports.

1983-84 World Food Situation: Supplies Tighten, Reserves Drop, Trade Remains Sluggish

In the past year, the world food situation of plentiful supplies and stocks at or slightly above minimum world food security needs has changed to a relatively tight situation. Drought in the Southern Hemisphere, Africa, and the United States along with the U.S. Payment-In-Kind Program to idle cropland modestly reduced 1983 grain and oilseed production. Meanwhile, world grain utilization continued to escalate slightly in 1983-84. The result has been a sharp reduction in world grain carryover stocks, with ending global trade-year stocks (as a percent of annual utilization) projected to be the smallest since 1976. With much of last year's idle U.S. cropland returning to production in 1984, world grain output is tentatively projected to increase in 1984-85. However, to reach these projections, favorble weather will be needed in North America, China, the Soviet Union and major Southern Hemisphere grain areas. With adverse weather over a wide area, supplies could become even tighter in 1985.

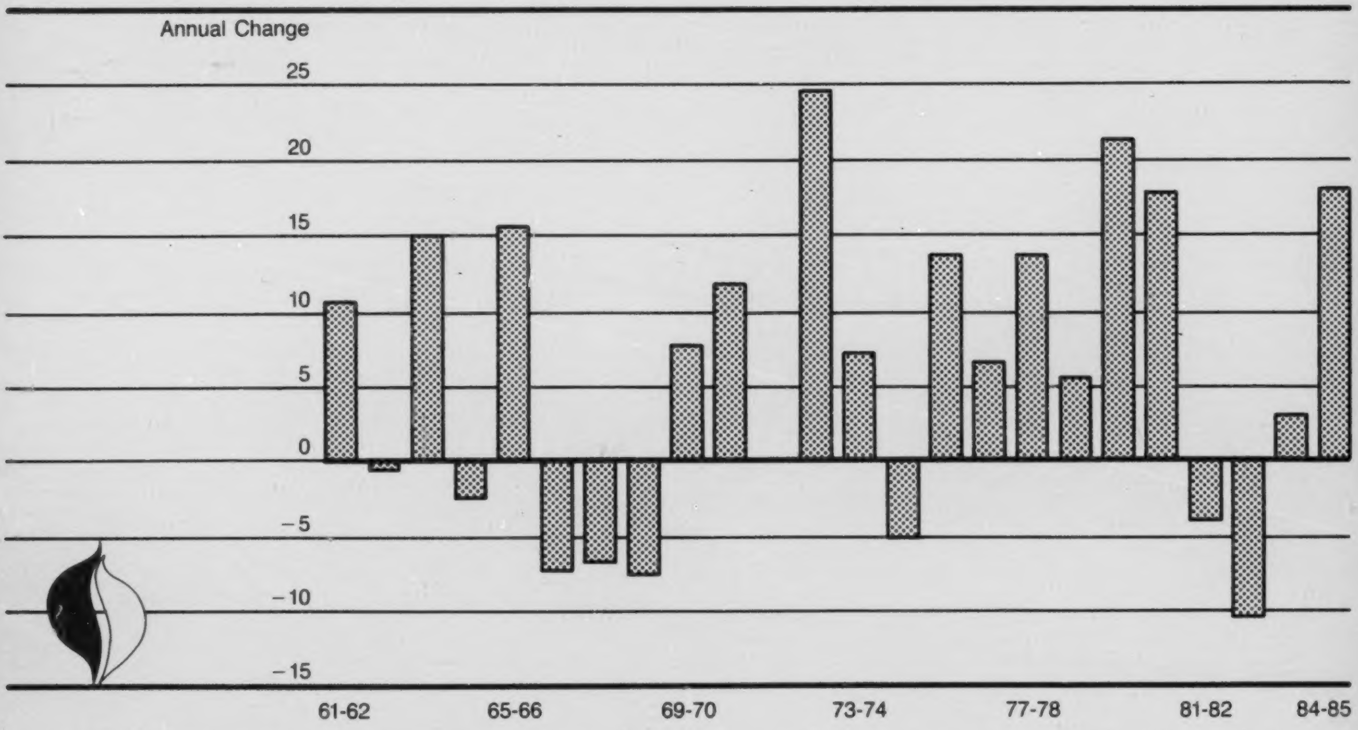
Despite tightening supplies, preliminary estimates indicate world grain trade in 1983-84 remained below peak levels reached in 1980-81 and was only slightly above the previous year. The sluggish trade reflects continued world debt problems, aggregate economic output and growth rates below those of the late 1970s and a relatively strong U.S. dollar, which has retarded U.S. exports. Sluggish world trade is continuing to generate pressures for protectionist trade policies in the European Community (EC), United States, Japan and other areas. World agriculture has an important stake in the outcome of these pressures for trade policy changes.

World Grain Trade Up Slightly After Two-Year Decline

Table 1 shows that world grain trade in the July 1983-June 1984 trade year increased an estimated 2 percent, or 3.9 million metric tons, from the previous year, after a two-year downturn. Global trade in all grains remains 5 percent below the peak level reached in 1980-81. Major trade developments include (1) a small reduction in the U.S. share of global wheat exports, (2) a slightly increased U.S. share of world coarse grain (feed grain) exports, (3) reduced imports by Eastern Europe, (4) increased self-sufficiency in grain production in China, and (5) slightly increased grain utilization in USSR. East European grain utilization continued to be restrained by debt problems and lack of access to credit for grain import purchases.

Table 1 indicates that weather problems and government policies caused a 4.4 percent decline from a year earlier in combined world production of all grains. Production was the lowest since 1980-81 and fell an estimated 4.5 percent, or 67 million metric tons (2.6 billion bushels corn equivalent), below global utilization. The gap between utilization and production reduced world grain carryover stocks by nearly one-third (see Figure 2), to 12.1 percent of annual utilization, the lowest percentage since the mid-1970s. This level of stocks is below the standard generally considered necessary for world food security.

Figure 1. Annual Change in Total World Grain Trade, 1961-62 through 1984-85 in Millions of Metric Tons.



Source: Compiled from U.S. Department of Agriculture, Foreign Agriculture Service, *Foreign Agriculture Circular, Grains*, FG 8-84 (Washington, D.C.), May 1984.

Global grain utilization increased by an estimated 2.1 percent in 1983-84, compared with average growth rates of 2.9 percent in the previous five years and 2.4 percent in the previous ten-year period. Grain-importing nations, as a group, relied slightly more on domestic grain production than in the past, thus causing global grain trade to lag behind the growth in world utilization.

Prospects for the Years Immediately Ahead

With a return to more favorable weather in North America and South Africa, and no major crop production problems elsewhere, world grain stocks should increase modestly in the next few years to levels considered more adequate for world food security. An improving grain supply situation—combined with the current up-trend in economic growth in Pacific Rim countries, North America, and parts of Europe—should push world grain exports modestly higher in the next few years. However, several years still appear to be needed to work out of the heavy build-up of debts during the 1970s. Private and public sector cash-flow requirements for debt repayments and interest costs appear likely to hold world economic growth below the high levels of the 1970s during this adjustment period. More modest economic growth, compared to the 1970s, will likely mean slower growth in consumer demand for livestock and poultry products and will likely hold growth in world grain exports below the explosive rates of the 1970s.

During the next year, world market prices for grain and other major agricultural products will remain unusually sensitive to any indication of widespread adverse weather in major producing areas. The potential for large volatility of agricultural commodity prices will remain until world grain stocks rise to more adequate levels.

World Wheat Production Sets Record, Utilization and Stocks Up Slightly

The decline in 1983-84 world grain supplies was entirely in coarse grain production. Food grain supplies continued their long-term upward trend even with the 1983 U.S. Payment-In-Kind Program for wheat producers. With sharply expanded 1983-84 production in Australia and China, world wheat production reached a record 489.3 million metric tons, up 1.8 percent from the previous record a year earlier and up 15 percent from four years earlier (see Table 2). World wheat utilization in 1983-84 is estimated to have increased by 3.0 percent, down slightly from the 3.4 percent average growth rate of the previous five years. Approximately half of the 1983-84 global increase in wheat utilization is attributed to increased wheat feeding in the United States to offset diminished corn (maize) supplies.

Table 1. Combined World Supplies, Utilization, Trade and Stocks of All Grains in 1983-84 and Selected Recent Years in Millions of Metric Tons.[a]

July-June Trade Years	Production	Utilization	Trade	Ending Stocks[b]	Stocks as % of Utilization
Projected					
1984-85	1,601	1,580	209	207	13.1
Preliminary					
1983-84	1,483	1,550	206	186	12.1
1982-83	1,551	1,517	202	253	16.7
1981-82	1,502	1,466	212	219	14.9
1980-81	1,446	1,459	216	184	12.7
1979-80	1,423	1,446	198	197	13.6
1978-79	1,462	1,434	177	221	15.4
1976-77	1,362	1,308	158	196	15.0
1971-72	1,197	1,179	110	183	15.5
1966-67	1,007	981	104	169	17.2
1960-61	846	832	72	199	23.9

[a] Source: U.S. Department of Agriculture, Foreign Agricultural Service, *Foreign Agriculture Circular, Grains*, FG 9-84 (Washington, D.C.), June 1984. Includes wheat, milled rice, and coarse grains.

[b] Excludes total stocks in most communist nations due to lack of published data. Stocks are an aggregate of individual marketing years and do not reflect stocks at a single point in time.

Table 2. World Wheat Production, Utilization, Trade and Carryover Stocks in Millions of Metric Tons in 1983-84 and Selected Recent Years.[a]

July-June Trade Years	Production	Utilization	U.S. Exports	Non-U.S. Exports	Total Trade	Ending Stocks[b]	Stocks as % of Utilization
Projected							
1984-85	497.7	498.0	36.7	64.7	101.4	103.0	20.8
Preliminary							
1983-84	489.3	483.0	38.1	63.3	101.4	103.3	21.5
1982-83	480.8	469.0	39.9	58.4	98.3	97.1	21.1
1981-82	450.1	443.3	48.8	52.5	101.3	85.3	19.4
1980-81	442.6	445.2	41.9	52.2	94.1	78.4	17.6
1979-80	424.4	444.2	37.2	48.8	86.0	81.0	18.4
1978-79	446.8	430.2	32.3	39.7	72.0	100.9	23.9
1976-77	421.3	385.8	25.8	37.5	63.3	99.8	26.2
1971-72	350.9	344.2	16.6	35.4	52.0	81.0	23.5
1966-67	306.8	279.9	20.3	35.7	56.0	82.1	29.4
1960-61	238.4	234.8	19.6	22.4	41.9	81.8	34.8

[a] Source: U.S. Department of Agriculture, Foreign Agricultural Service, *Foreign Agricultural Circular, Grains*, FG 9-84 (Washington, D.C.), June 1984. Includes wheat and wheat products.

[b] Excludes total stocks in most communist nations due to lack of published data. Stocks are an aggregate of individual marketing years and do not reflect stocks at a single point in time.

After a 3.1 percent decline in global wheat and flour trade in 1982-83, wheat trade turned upward with a 3.2 percent increase estimated for 1983-84. With strong competition and increased exports from Australia, Canada, the European Community (EC) and Argentina, U.S. wheat exports dropped slightly below the previous year. Thus, the 1983-84 trade year marked the second consecutive annual decline in U.S. wheat exports. Preliminary estimates place U.S. 1983-84 exports at 38.1 million metric tons—down 4.5 percent from the previous year and 22 percent below the 1981-82 record.

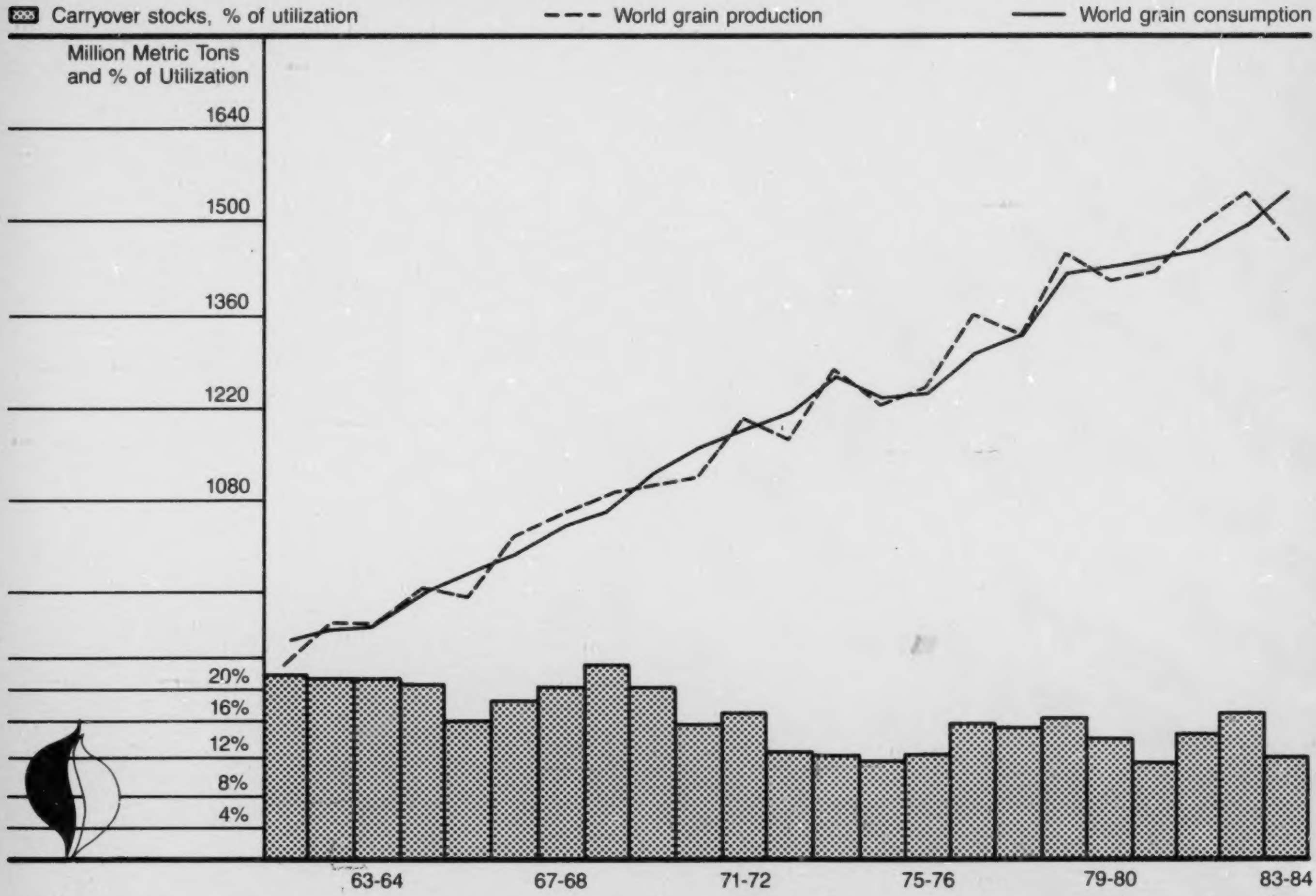
World wheat stocks continued to climb in 1983-84 with ending stocks rising by 6 percent. Global stocks are estimated at 21.5 percent of annual utilization or 78 days' requirements. That is the highest world wheat stocks level since mid-1979 but is below the 1968-70 level of 30 to 38 percent of annual utilization.

Performance of the world wheat economy in 1983-84 indicates U.S. policy measures have halted the increase in U.S. carryover stocks, but have been offset by expanded production and trade of other wheat-exporting nations. As a result, the U.S. share of global wheat trade has declined for the second consecutive year, while other exporters have expanded their market shares.

World Coarse Grain Supplies Tighten, Reserves Drop

In contrast to wheat, world coarse grain production dropped sharply, to the lowest level since 1975-76. Global utilization continued to climb slightly, despite tightening supplies and sharply higher prices in international trade. As a result, world stocks by mid-1984 are projected to drop to the lowest absolute level since 1976 and the lowest percentage of annual utilization in recent history. Ending July-June trade year stocks are projected at only 29 days' requirements, down from 66 days' utilization a year earlier.

Figure 2. World Grain Production and Consumption in Millions of Metric Tons, and Carryover Stocks as Percentage of Annual Consumption, July-June, 1961-62 to 1983-84.



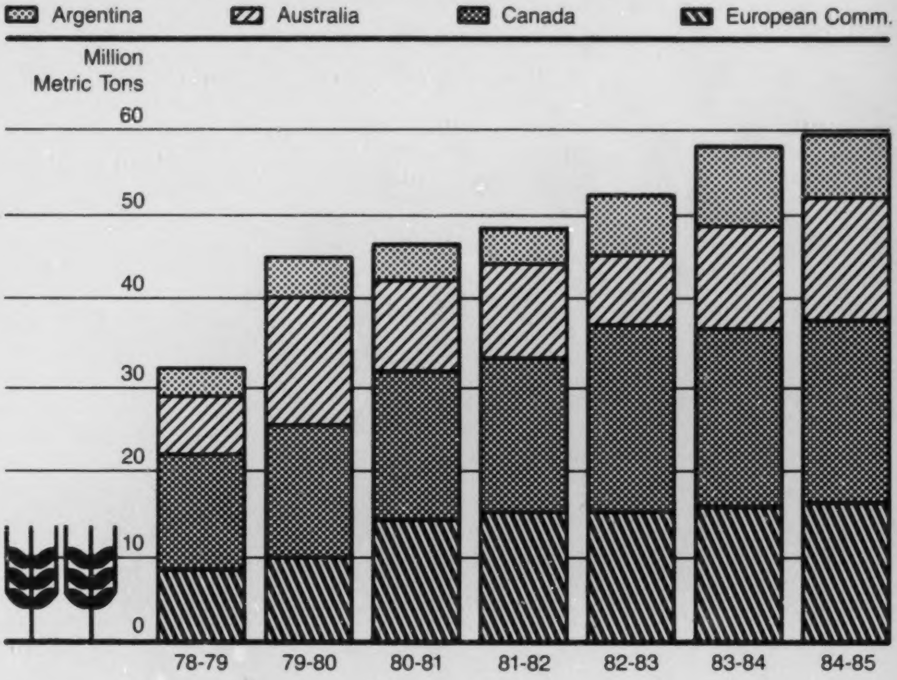
Source: U.S. Department of Agriculture, Foreign Agricultural Service, *Foreign Agriculture Circular, Grains*, FG 8-84 (Washington, D.C.), May 1984 and various other issues.

Reduced production reflected last year's drought and Payment-In-Kind Program in the United States, less-than-ideal growing conditions in parts of Eastern and Western Europe, and a severe drought in South Africa during its October-May growing season—for the second consecutive year. Global coarse grain production is estimated to have declined 96 million metric tons, or 12 percent below the previous year. U.S. production, in contrast, dropped 44 percent, or 115 million metric tons. About one-third of the decline in U.S. production was caused by the Payment-In-Kind Program with the other two-thirds due to unfavorable weather. Lower production in the United States, Europe and South Africa was partially offset by increased 1983-84 production in the USSR, Thailand, China and Australia.

World coarse grain utilization for 1983-84 is projected at 762 million metric tons—0.6 percent above a year earlier, 2 percent higher than five years earlier and 13 percent above a decade earlier (see Table 3). U.S. coarse grain consumption is declining by about 8 percent, while non-U.S. consumption continued to expand at a 3 percent annual rate.

With critically short supplies in South Africa and limited supplies in other coarse grain exporting nations, the U.S. share of global coarse grain exports in 1983-84 is estimated to have risen to 60.7 percent, up from 59.0 percent in the previous season. Global trade rose about 1 percent from a year earlier, but remained 15 percent below the record 1980-81 level as importing nations relied more heavily on domestic production than in the recent past. Among major importers, only the Soviet Union and Japan increased their coarse grain imports from the previous year. However, Soviet coarse grain imports remained sharply below previous record levels.

Figure 3. Wheat Exports by Major Non-U.S. Exporters, July-June 1984-85 and Comparisons with Recent Years in Millions of Metric Tons.



Source: U.S. Department of Agriculture, Foreign Agricultural Service, *Foreign Agriculture Circular, Grains*, FG 21-83 (Washington, D.C.), July 14, 1983 and FG 8-84 (Washington, D.C.), May 1984.

Table 3. World Coarse Grain Production, Utilization, Trade and Carryover Stocks in Millions of Metric Tons in 1983-84 and Selected Recent Years.[a]

July-June Trade Years	Production	Utilization	U.S. Exports	Non-U.S. Exports	Total Trade	Ending Stocks[b]	Stocks as % of Utilization
Projected							
1984-85	796.1	774.7	58.1	37.4	95.5	88.1	11.4
Preliminary							
1983-84	689.6	762.3	56.0	36.3	92.3	66.7	8.8
1982-83	785.2	758.6	54.0	37.5	91.5	139.4	18.3
1981-82	771.1	741.8	58.4	40.3	98.7	112.8	15.1
1980-81	732.0	741.2	69.6	39.2	108.8	83.6	11.4
1979-80	740.9	740.3	71.4	28.0	99.4	92.8	12.5
1978-79	751.7	746.0	60.2	32.6	92.8	92.2	12.4
1976-77	703.5	684.1	50.6	33.2	83.8	78.2	11.5
1971-72	629.9	616.2	24.2	24.8	49.0	87.0	14.1
1966-67	521.2	520.2	20.0	20.0	40.0	76.1	14.6
1960-61	447.9	437.2	15.7	8.3	24.0	109.7	25.1

[a] Source: U.S. Department of Agriculture, Foreign Agricultural Service, *Foreign Agricultural Circular, Grains*, FG 21-83 (Washington, D.C.), July 14, 1983; FG 1-82 (Washington, D.C.), January 20, 1982; FG 29-82 (Washington, D.C.), September 15, 1982; FG 12-73 (Washington, D.C.), October 26, 1973; and FG 9-84 (Washington, D.C.), June 1984.

[b] Excludes total stocks in most communist nations due to lack of published data. Stocks are an aggregate of individual marketing years and do not reflect stocks at a single point in time.

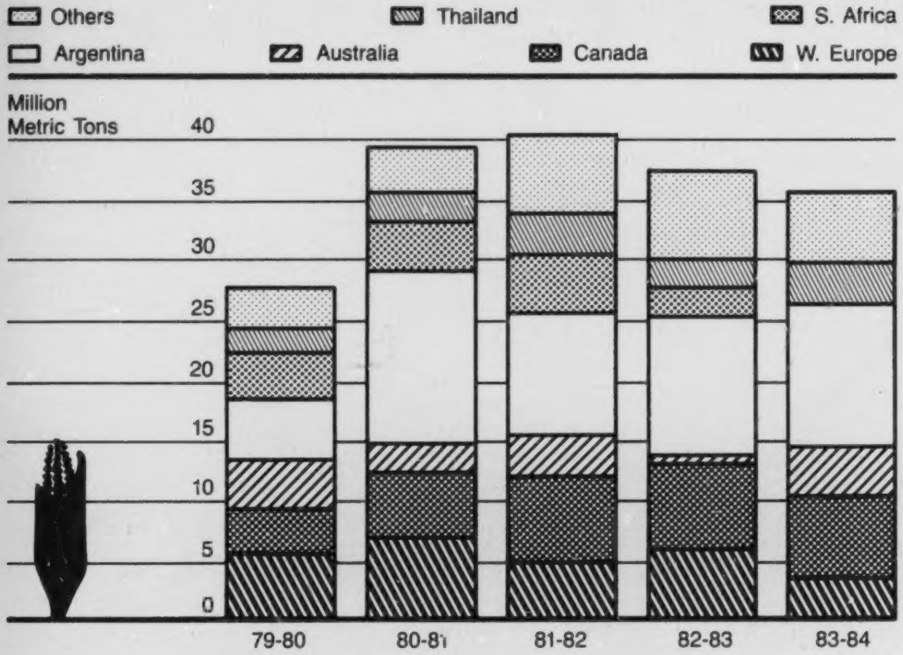
Record World Rice Production and Utilization

World rice production continued its upward trend in 1983-84 with a 7 percent increase from the previous season's record level. Preliminary estimates place 1983-84 production 16 percent above five years earlier and up 34 percent from a decade ago. Global rice production has increased in seven out of the last 10 years and declined in only three of those years (see Table 4). During the past decade, utilization closely matched the upward trend in production. Ending 1984 world carryover stocks are estimated at approximately 20 days' requirements, the same as a decade ago. However, these stocks exclude inventories in North Korea and China and, thus, substantially understate total stocks.

Nearly all major producers except the United States and Pakistan harvested larger rice crops in 1983-84 than the previous year. Pakistan's production remained at the 1982-83 level, while U.S. production fell 36 percent as a result of drought and the Payment-In-Kind Program. Most other producers recorded small increases in production with the exception of India, which experienced a 23 percent rise in production from the previous year. Major rice-consuming nations are in eastern Asia, and consumption in that area in 1983-84 expanded at about the same rate as in recent years.

World rice trade appears to have increased slightly in 1983-84 despite a decline in U.S. exports. Thailand is now the world's leading rice exporter, with the United States slipping to a second-place ranking. Pakistan ranks third as a rice exporter. Rice-importing areas include the European Community, Indonesia, the Middle East and Nigeria.

Figure 4. Coarse Grain Exports by Major Non-U.S. Exporters, October-September 1983-84 and Comparisons With Recent Years in Millions of Metric Tons.



Source: U.S. Department of Agriculture, Foreign Agricultural Service, *Foreign Agriculture Circular Grains*, FG 7-84 (Washington, D.C.), April 1984; and FG 8-84 (Washington, D.C.), May 1984.

Table 4. World Milled Rice Production, Utilization, Trade and Carryover Stocks in Millions of Metric Tons in 1983-84 and Selected Recent Years.[a]

July-June Trade Years	Production	Utilization	U.S. Exports[c]	Non-U.S. Exports[c]	Total Trade[c]	Ending Stocks[b]	Stocks as % of Utilization
Projected							
1984-85	307.1	307.6	—	—	11.7	15.8	5.1
Preliminary							
1983-84	304.6	305.0	2.0	9.9	11.9	16.4	5.4
1982-83	285.4	289.8	2.3	9.5	11.8	16.8	5.8
1981-82	280.5	281.3	2.5	9.3	11.8	21.2	7.5
1980-81	271.0	272.2	3.0	10.0	13.0	22.1	8.1
1979-80	257.4	261.9	3.0	9.7	12.7	23.3	8.9
1978-79	263.7	258.6	2.3	9.7	12.0	27.8	10.8
1976-77	236.8	238.4	2.1	8.5	10.6	17.7	7.4
1971-72	216.4	218.8	1.8	6.9	8.7	15.3	7.0
1966-67	179.3	180.7	1.7	6.1	7.8	10.6	5.9
1961-62	147.3	147.7	0.9	5.4	6.3	7.0	4.7

[a] Source: U.S. Department of Agriculture, Foreign Agricultural Service, *Foreign Agricultural Circular, Grains*, FG 21-83 (Washington, D.C.), July 14, 1983; FG 1-83 (Washington, D.C.), January 17, 1983; FG 18-78 (Washington, D.C.), November 13, 1978; FG 12-73 (Washington, D.C.), October 26, 1973; and FG 9-84 (Washington, D.C.), June 1984.

[b] Excludes total stocks in most communist nations due to lack of published data. Stocks are an aggregate of individual marketing years and do not reflect stocks at a single point in time.

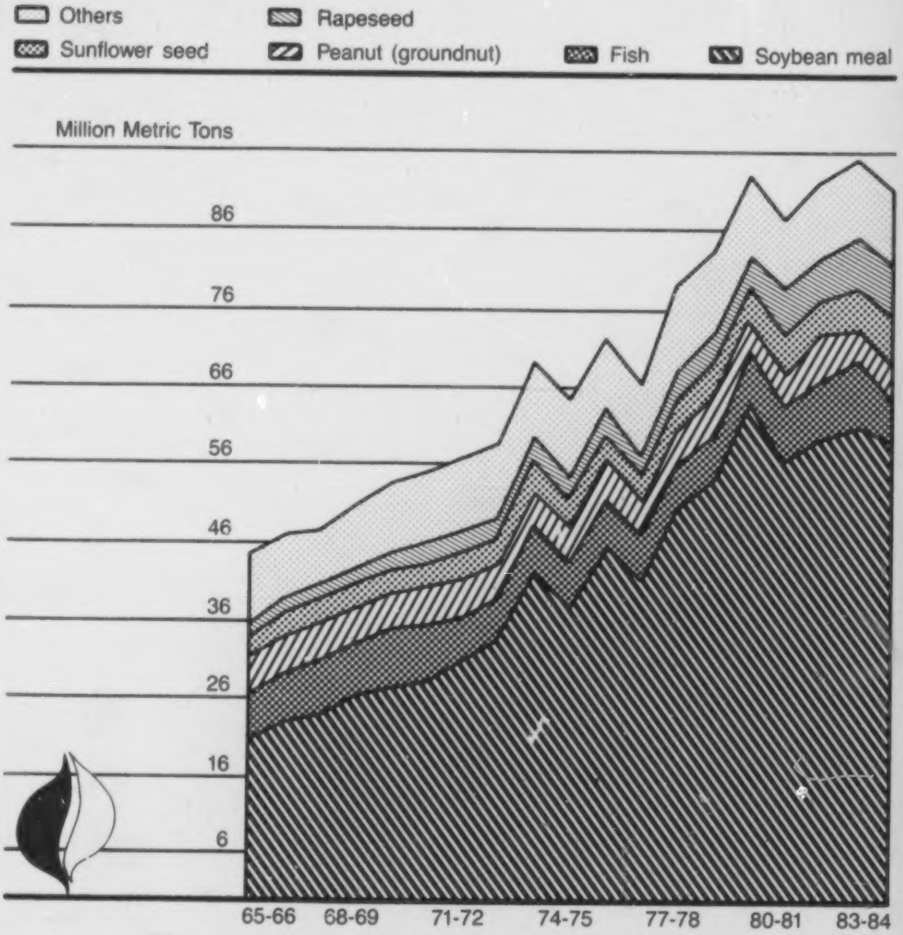
[c] Exports are computed on a calendar year basis.

Oilseed Supplies Down

Like coarse grains, world oilseed supplies tightened substantially in 1983-84. Tighter supplies can be traced to the United States where soybean and sunflower seed production declined through indirect effects of the Payment-In-Kind Program for other crops and widespread drought. Tight global supplies also reflect a sharply lower olive crop in Mediterranean countries, reduced palm oil production in the first half of the 1983-84 trade year and lower 1983 rapeseed production in China and Western Europe than in the previous year. World production of major oilseeds fell an estimated 8 percent from a year earlier. If U.S. soybean, sunflowerseed and cottonseed crops had remained at the 1982 level, world production would have increased slightly from the preceding year. Thus, diminished U.S. production was the single most important factor behind tight 1983-84 global supplies.

In the world oilseed sector, 1983-84 fat and oil supplies have been tighter than those for protein meal. One reason is the reduced production of high oil content crops, such as palm oil and olive oil, during the first half of the marketing year. Another reason is that fats and vegetable oils are used primarily for direct human consumption and have a highly inelastic demand. Consumption is reduced only slightly with a sharp rise in prices and is increased only slightly with sharply lower prices. Protein meal, on the other hand, is used largely in livestock and poultry rations. Protein content of rations can and does vary somewhat with cost, availability and economic conditions in the livestock and poultry industries. With depressed feeding returns in these industries, world protein meal prices in 1983-84 were only modestly above a year earlier, while vegetable oil prices rose much more sharply.

Figure 5. World Protein Meal Production by Type of Product, 1965-66 through 1983-84.



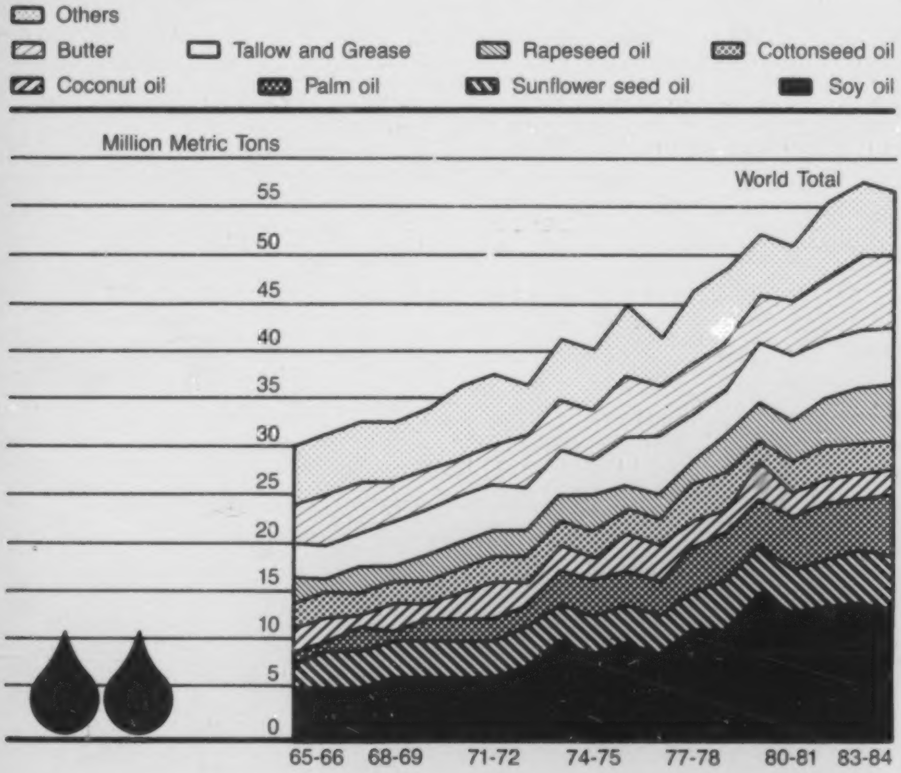
Source: U.S. Department of Agriculture, Foreign Agricultural Service, *Foreign Agriculture Circular, Oilseeds and Products*, FOP 4-84 (Washington, D.C.), April 1984 and various other issues.

Table 5. World, U.S. and Foreign Production of Oilseed Products in 1971-72, 1979-80, 1981-82, 1982-83 and 1983-84 in Millions of Metric Tons.[a]

	44% Protein Meal Equivalent						Fat and Oil Production					
	1971-72	1979-80	1981-82	1982-83	Prelim. 1983-84	% Change 1971-84	1971-72	1979-80	1981-82	1982-83	Prelim. 1983-84	% Change 1971-84
U.S.	25.2	49.9	44.4	48.6	34.7	+38	9.3	16.2	14.8	15.7	12.1	+30
Non-U.S.	30.3	39.9	49.0	46.5	57.0	+88	28.1	36.7	41.3	42.0	46.4	+65
World Total	55.5	89.8	93.4	95.1	91.7	+65	37.4	52.9	56.1	57.7	58.5	+56

[a] Source: U.S. Department of Agriculture, Foreign Agricultural Service, *Foreign Agriculture Circular, Oilseeds and Products*, FOP 4-84 (Washington, D.C.), April 1984; FOP 16-78 (Washington, D.C.), November 1978; U.S. Department of Agriculture, Economic Research Service, *Oil Crops Outlook and Situation Report*, OSC-4 (Washington, D.C.), February 1984; *Feed Outlook and Situation Report* F&S-292 (Washington, D.C.), March 1984; *Livestock and Meat Statistics* (Washington, D.C.), various issues; U.S. Department of Agriculture, Statistical Reporting Service, *Crop Production* (Washington, D.C.), various issues; and *Dairy Products* (Washington, D.C.), various issues.

Figure 6. World Edible and Inedible Oil Production by Type of Product 1965-66 through 1983-84.



Source: U.S. Department of Agriculture, Foreign Agricultural Service, *Foreign Agriculture Circular, Oilseeds and Products*, FOP 4-84 (Washington, D.C.), April 1984 and various other issues.

Global stocks of major oilseeds will be sharply below a year earlier by late summer 1984 and are expected to be at the lowest level since the early 1970s. Soybean carryover stocks normally represent two-thirds to three-fourths of global oilseed carryover stocks with much of the world carryover of soybeans stored in the United States. Ending 1983-84 U.S. and global soybean stocks are expected to be about half as large as a year earlier. Aggregate carryover stocks of other oilseeds, however, are expected to be down only about one-fifth from the previous season. Unusually low ending stocks will make 1984-85 soybean and oilseed prices extremely sensitive to crop conditions in the United States, Brazil, Argentina, China and other major oilseed producing areas.

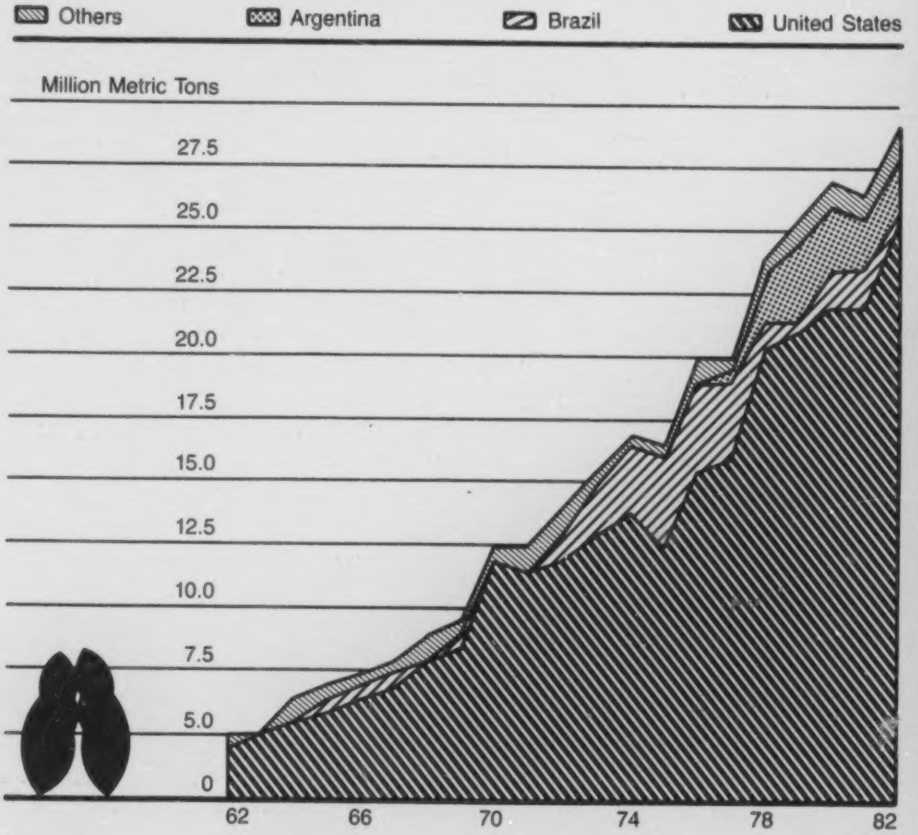
Global carryover stocks of major protein meals at the end of 1983-84 are expected to be about 14 percent below a year earlier. World carryover stocks of major vegetable oils, however, are expected to be down more sharply and may drop one-fourth to one-fifth below the previous marketing year. As with oilseeds, the sharpest declines in these stocks are expected to be in the United States. Low product stocks also will increase the sensitivity of oilseed prices to 1984-85 weather developments and crop prospects.

Early indicators point to some easing of tight global oilseed supplies in 1984-85, but favorable weather in North America, USSR and China will be necessary for recent projections to materialize. Soybean, sunflower and cotton plantings are indicated to be above a year earlier in the United States, caused by changing government programs and higher planting-time crop prices than a year earlier. Because much of the tightness in 1983-84 global supplies came from reduced U.S. production, expanded production in the same area should make somewhat more plentiful global supplies available in 1984-85, given favorable weather during the growing season.

Sources of expanded world protein meal and fat and oil production during the last two decades are shown in Figures 5 and 6. Soybeans have been the major source of expanded protein meal production, because the soybean has a higher protein content than most other major oilseeds. Expanded protein meal production has been primarily in response to a long-term upward trend in consumer incomes of industrial economies and a resulting dietary shift away from direct human consumption of cereal products and toward increased consumption of livestock and poultry products. In contrast to the protein meal sector, soybean oil production represents less than one-fourth of the world's total supply of edible fats and oils. Soybean oil faces competition from a wide range of vegetable oils and animal fats including sunflower seed oil, palm oil, coconut oil, cottonseed oil, rapeseed oil, lard, tallow, butter, peanut (or groundnut) oil, olive oil and safflower oil. Global soybean oil production normally exceeds the individual output of these other fat and oil products, but soybean oil falls far short of having a dominant share of the world edible fat and oil market.

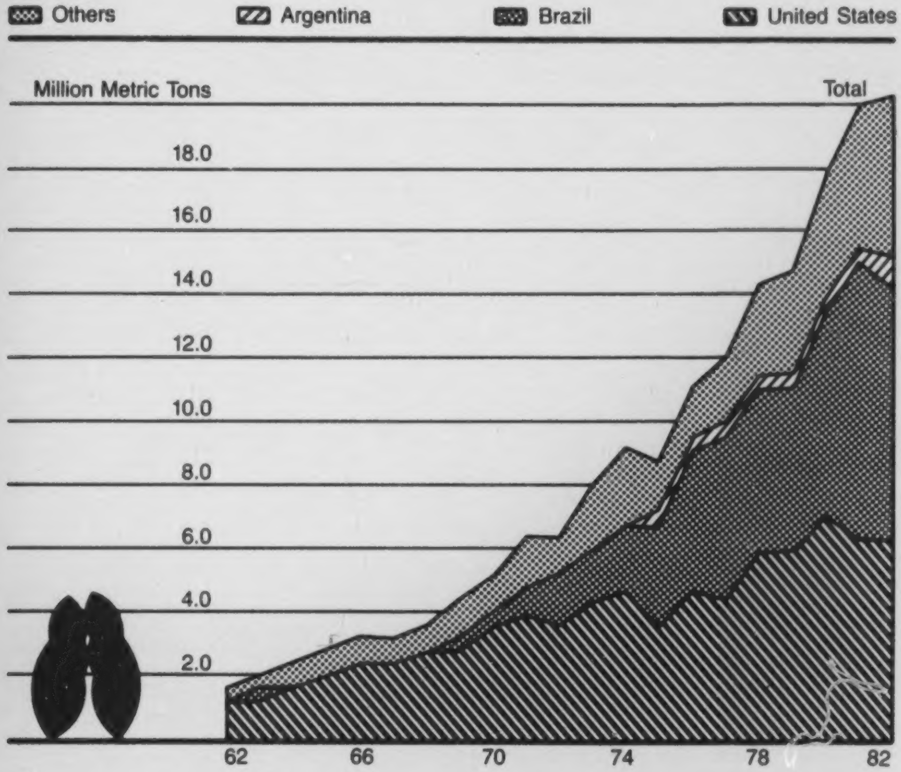
World soybean production is concentrated heavily in four nations: The United States, China (where the plant originated), Brazil and Argentina. Figure 7 shows that the United States is by far the world's largest exporter of unprocessed soybeans. U.S. soybean exports have grown almost continuously since the early 1960s, except for brief interruptions when the U.S. crop was hit hard by drought. Major years of adverse U.S. weather included 1974-75, 1980-81 and 1983-84. Brazil's soybean exports expanded rapidly in the early and mid-1970s, until that nation began a policy of encouraging exports of processed products rather than whole soybeans. More recently, Argentina has emerged as a significant exporter of soybeans, and that trend is expected to continue in the future.

Figure 7. World Soybean Exports by Country of Origin, Calendar Years 1962 to 1982.



Source: Food and Agriculture Organization of the United Nations, *Trade Yearbook* (Rome, Italy), various issues.

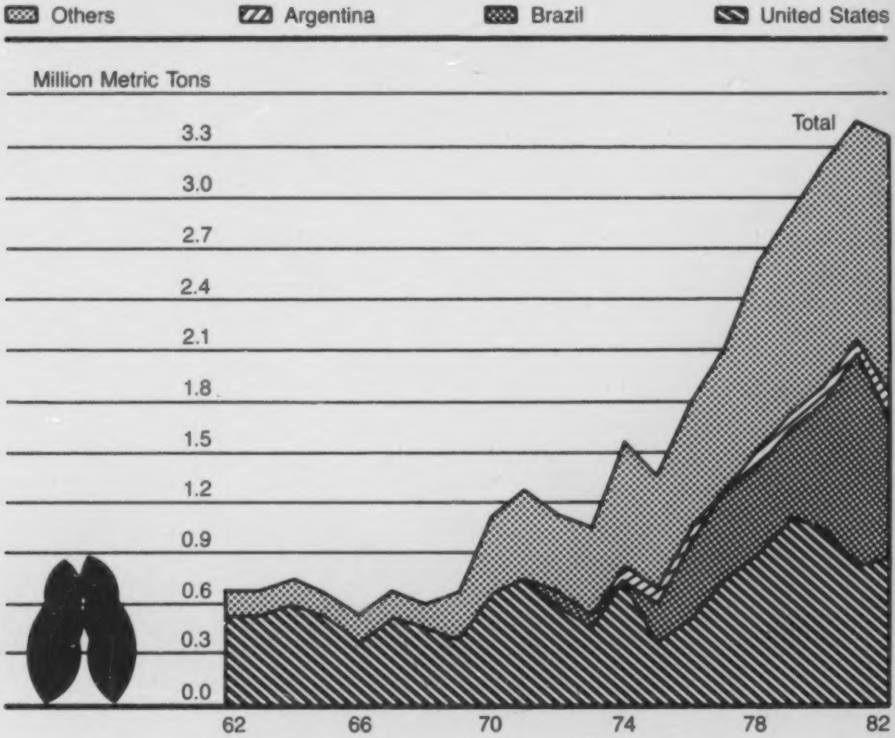
Figure 8. World Soybean Meal Exports by Country of Origin, Calendar Years 1962 to 1982.



Source: Food and Agriculture Organization of the United Nations, *Trade Yearbook (Rome, Italy), various issues.*

Figures 8 and 9 show the trend in global exports of processed soybean products over the past two decades. These charts indicate the U.S. shares of processed soybean product exports have fallen dramatically over that time period, because of increased competition from Brazil and Western Europe (in the "others" category). Western European exports of soybean meal and oil stem largely from imports and processing of U.S. soybeans. Reasons for these differential rates of growth in processed soybean product exports relate to trade policies of the nations involved and will be discussed in the trade policy section of this report.

Figure 9. World Soybean Oil Exports by Country of Origin, Calendar Years 1962 to 1982.



Source: Food and Agriculture Organization of the United Nations, Trade Yearbook (Rome, Italy), various issues.

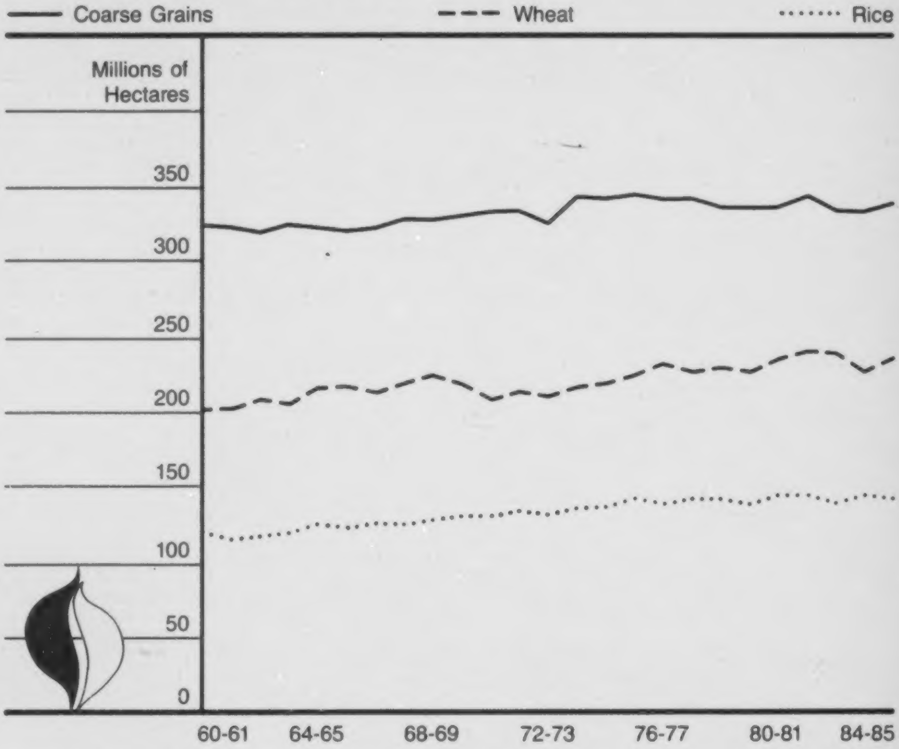
Trends in World Grain and Oilseed Area Harvested

World wheat area harvested declined modestly in 1983-84, reversing a long-term upward trend (see Figure 10). Harvested area dropped 5 percent below a year earlier, but remained 10 percent above the 1970-71 level. The decline was concentrated largely in the USSR, where adverse weather at planting time limited total area seeded to wheat, and in the United States where the Payment-In-Kind Program encouraged producers to remove land from production (see Table 6). Wheat area increased from the previous year in Canada, Australia and China and remained approximately constant in the European Community and Eastern Europe.

World rice area harvested continued its long-term upward trend with a 3 percent increase over the preceding year. That increased total area harvested 9 percent above 1970-71 and 19 percent above two decades earlier. As with wheat, U.S. rice plantings dropped sharply in 1983, while other nations expanded their rice area.

Global harvested area of coarse grains in 1984 declined less than 1 percent from the previous year, despite the most aggressive land-idling farm program in U.S. history. World coarse grain harvested area in 1983-84 was 3 percent below a decade earlier (see Figure 10) but 3 percent above two decades ago. U.S. harvested coarse grain area declined by 25 percent last year, but was nearly offset by expanded plantings in Australia, USSR and Thailand. European coarse grain area remained near the previous year's level (see Table 6).

Figure 10. World Harvested Area Devoted to Individual Grains in Millions of Hectares, 1960-61 through 1984-85.



Source: U.S. Department of Agriculture, Foreign Agricultural Service, *Foreign Agriculture Circular, Grains* FG 8-84 (Washington, D.C.), May 1984.

Table 6. Wheat and Coarse Grain Area Harvested in Millions of Hectares in Major Producing Countries, 1983-84 and Comparisons with Recent Years.[a]

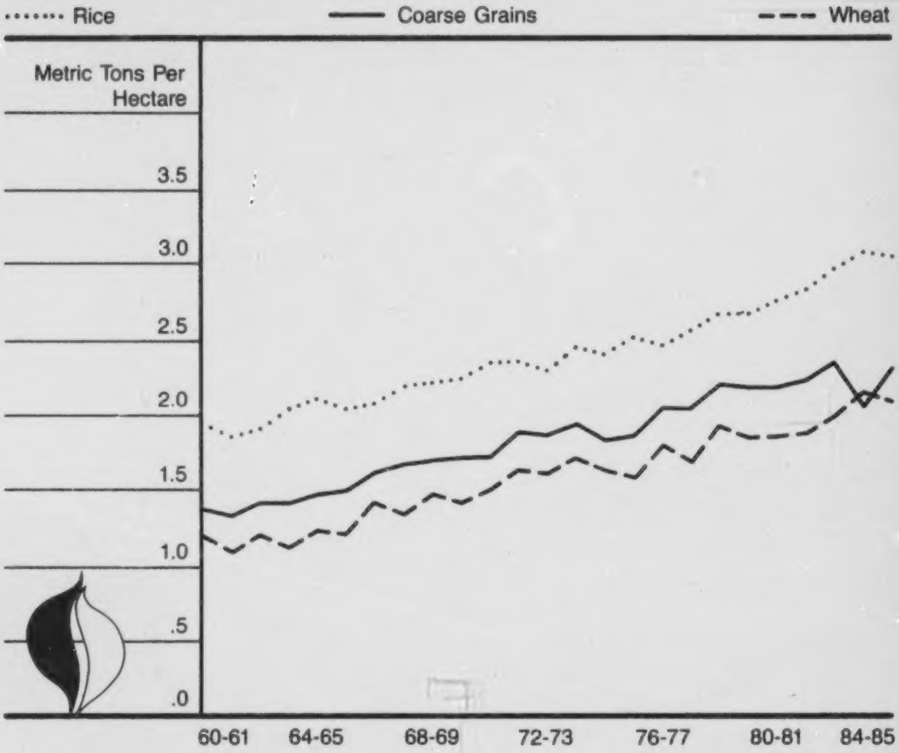
Area or Country	Coarse Grains						Wheat					
	1970-71	1975-76	1978-79	1981-82	1982-83	Prelim. 1983-84	1970-71	1975-76	1978-79	1981-82	1982-83	Prelim. 1983-84
W. Europe	24.0	25.2	25.3	24.4	24.1	23.3	17.0	15.4	15.9	16.4	16.9	17.1
Canada	8.4	8.6	7.8	9.2	8.9	7.9	5.1	9.1	10.6	12.4	12.6	13.7
Australia	4.3	3.9	4.7	4.8	4.5	6.1	6.5[b]	8.6[b]	10.2[b]	11.9[b]	11.5[b]	12.6[b]
Argentina	7.5	5.9	6.3	6.4	6.3	6.1	3.7	5.3	4.7	5.9	7.3	6.9
S. Africa	5.5	5.6	5.3	5.3	4.8	4.8	1.9[b]	1.8[b]	1.8[b]	1.8[b]	2.0[b]	1.8[b]
U.S.S.R.	43.9	58.1	58.0	58.0	58.0	62.4	65.2	62.0	62.9	59.2	57.3	50.4
Total above	93.6	107.3	107.4	108.1	106.6	110.6	99.4	102.2	106.1	107.6	107.6	102.5
U.S.	39.7	42.6	43.2	43.6	43.6	32.9	17.7	28.1	22.9	32.8	32.0	24.9
Total	133.3	149.9	150.6	151.7	150.2	143.5	117.1	130.3	129.0	140.4	139.6	127.4

[a] Sources: U.S. Department of Agriculture, Foreign Agricultural Service, *Foreign Agriculture Circular, Grains*, FG 13-82 (Washington, D.C.), April 26, 1982; FG 16-75 (Washington, D.C.), December 22, 1975; and FG 7-77 (Washington, D.C.), July 1977; FG 7-84 (Washington, D.C.), April 1984; SG 6-84 (Washington, D.C.), April 10, 1984; FG 10-74 (Washington, D.C.), April 1974; and personal communication with officials of U.S. Department of Agriculture, Foreign Agricultural Service.

[b] Planted area.

Global coarse grain yields per hectare declined more sharply in 1983-84 than at any time in the past 23 years with a 12 percent drop from the previous year. Sharply lower yields were concentrated in the United States and South Africa with both nations experiencing severe drought along with moderate yield reductions in parts of Eastern and Western Europe. The world average yield, however, remains 5 percent above a decade earlier and 43 percent higher than two decades ago. Given a return to more favorable weather, average coarse grain yields should continue a long-term up-trend in the next several years.

Figure 11. World Grain Yields in Metric Tons per Hectare, 1960-61 through 1984-85.



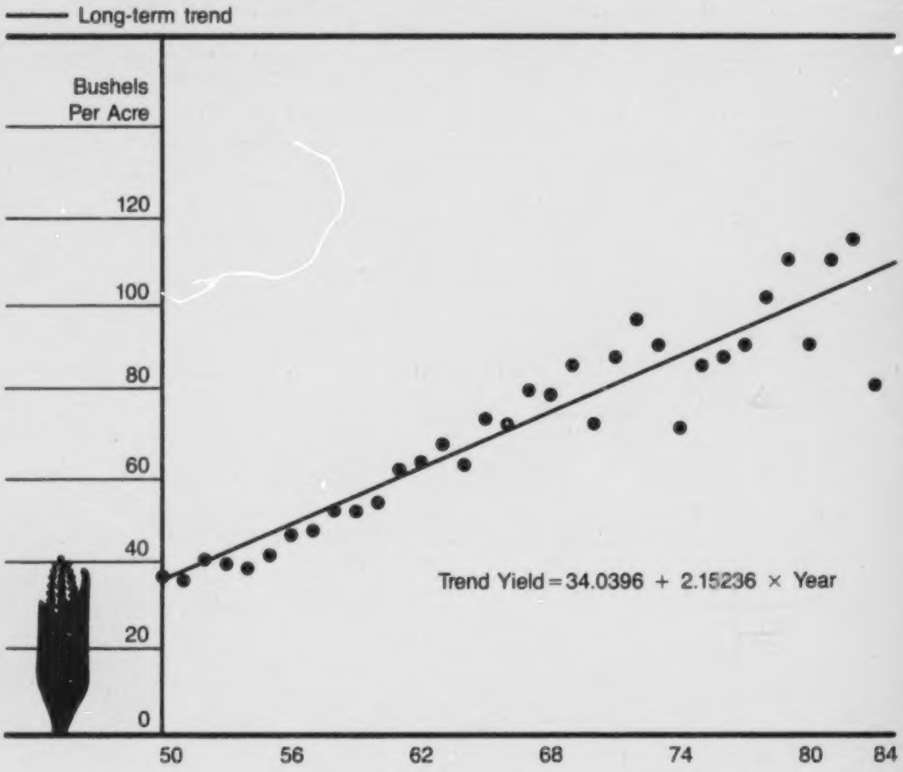
Source: U.S. Department of Agriculture, Foreign Agricultural Service, *Foreign Agriculture Circular, Grains* FG 8-84 (Washington, D.C.), May 1984.

Potential yield increases reflect more widespread application of currently available technology, including variety selection, cultural practices, fertilization, pest control and timeliness of field operations. For example, Figure 12 shows the long-term trend in the U.S. average corn yield with yields trending upward at an average rate of 2.15 bushels per acre per year as a result of these improved management practices and the development of additional new technology.

In contrast to coarse grains, the global average wheat yield in 1983-84 set a new record—6 percent above the previous year's record level. The long-term trend in world wheat yield per hectare (see Figure 12) reveals a much more dramatic upward trend than in coarse grains. World wheat yields last year were 24 percent higher than a decade earlier and 89 percent higher than 20 years ago. As with coarse grains, the upward trend in global wheat yields appears likely to continue in the future as more farmers in major wheat-growing areas continue to adopt currently available technology and management practices.

World rice yields have trended upward during the past two decades at a slightly slower rate than those for wheat. The global average rice yield per hectare in 1983-84 was 2 percent above a year earlier, 24 percent higher than 10 years ago and 48 percent above two decades earlier.

Figure 12. U.S. Corn Yields in Bushels Per Acre, 1950-83.



Source: Food and Agriculture Organization of the United Nations, *Trade Yearbook* (Rome, Italy), various issues.

Table 7. Comparative Yields in Metric Tons Per Hectare of Selected Grain Producing Countries.[a]

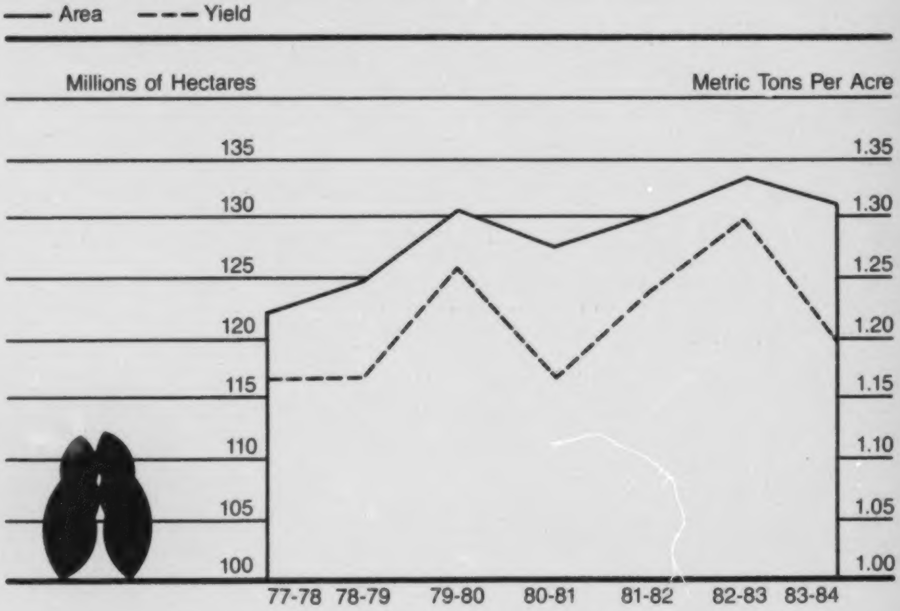
	Coarse Grains					Wheat				
	1975-76	1979-80	1981-82	1982-83	Proj. 1983-84	1975-76	1979-80	1981-82	1982-83	Proj. 1983-84
U.S.	4.35	5.71	5.71	5.86	4.19	2.06	2.30	2.32	2.39	2.65
Canada	2.31	2.63	2.83	2.99	2.70	1.80	1.64	2.00	2.12	1.96
Argentina	2.44	2.20	2.88	2.85	3.10	1.63	1.69	1.41	1.98	1.70
Brazil	1.34	1.73	1.71	1.74	1.61	0.92	0.75	1.15	.65	1.08
Australia	1.43	1.47	1.37	1.84	1.53	1.40	1.45	1.38	.77	1.63
World	1.85	2.17	2.20	2.29	2.04	1.58	1.85	1.87	2.00	2.13

[a] Sources: U.S. Department of Agriculture, Foreign Agricultural Service, *Foreign Agriculture Circular, World Crop Production*, WCP 4-82 (Washington, D.C.), April 12, 1982; WCP 3-84 (Washington, D.C.), March 9, 1984; *Foreign Agriculture Circular, Grains*, FG 7-77 (Washington, D.C.), July 1977; and *Foreign Agriculture Circular, Oilseeds and Products*, FOP 4-78 (Washington, D.C.), April 1978; FOP 5-83 (Washington, D.C.), May 1983; and personal communication with officials of the U.S. Department of Agriculture, Foreign Agricultural Service.

Harvested Soybean and Oilseed Area and Yield Trends

After a nearly steady upward trend for more than two decades, global soybean area harvested declined by an estimated 4 percent in 1983-84 (see Table 8). The decline was concentrated heavily in the United States and reflected indirect effects of the 1983 Payment-In-Kind Program. That program paid U.S. farmers specific amounts of commodities to idle cropland normally devoted to grains and cotton. Soybeans were not included in the Payment-In-Kind Program, but it affected soybeans in two ways: (1) wheat producers reduced their wheat area harvested, thus reducing the land base available for double-cropping with soybeans, and (2) feed grain producers who did not participate in the program shifted cropland out of soybeans and into corn in anticipation of rising corn prices. As a result, U.S. soybean area harvested in 1983 fell 11 percent below a year earlier and 5 percent below the 1977-81 average level. In addition, China's harvested soybean area fell an estimated 5 percent in 1983. Declines in these two nations were only partially offset by expanded soybean plantings in South America and other soybean-growing areas. To put the impact of the Payment-In-Kind Program in perspective, U.S. soybean plantings—if they had remained constant at the 1982 level—would have generated a 9 percent increase in 1983-84 global soybean area.

Figure 13. World Yields in Metric Tons per Hectare, and Harvested Area Devoted to Major Oilseeds, 1977-78 through 1983-84.



Source: U.S. Department of Agriculture, Foreign Agricultural Service, *Foreign Agriculture Circular, Oilseeds and Products*, FOP 4-84 (Washington, D.C.), April 1984.

Table 8. Soybean Area Harvested in Millions of Hectares in Major Producing Countries, 1983-84 and Comparisons with Recent Years.[a]

	1970-71	1975-76	1978-79	1979-80	1980-81	1981-82	1982-83	Prelim. 1983-84	Percent Change from 1970-71
U.S.	16.7	20.8	23.4	28.6	27.5	26.9	28.3	25.2	+ 51
Brazil	1.3	5.8	7.8	8.8	8.5	8.3	8.2	9.3	+615
Argentina	0.03	0.4	1.3	2.0	1.7	2.0	2.1	2.6	+8,567
China	8.0	8.8	6.8	7.3	7.3	8.0	8.4	8.0	+ 0
Canada	0.1	0.2	0.2	0.3	0.3	0.4	0.4	0.4	+300
Paraguay	0.04	0.2	0.3	0.4	0.4	0.4	0.4	0.4	+900
Total	26.17	36.2	39.8	47.4	45.7	46.0	48.2	50.4	+ 93

[a] Sources: U.S. Department of Agriculture, Foreign Agricultural Service, *Foreign Agriculture Circular, World Crop Production*, WCP 6-82 (Washington, D.C.), May 10, 1982; and *Foreign Agriculture Circular, Oilseeds and Products*, FOP 4-83 (Washington, D.C.), April 1983; FOP 4-84 (Washington, D.C.), April 1984; are personal communication with officials of U.S. Department of Agriculture, Foreign Agricultural Service.

Table 9 indicates that global average soybean yields per hectare have increased rather slowly in recent years with the record average yield being in 1979-80. With below-normal yields in the United States and Brazil in 1983-84, the global average fell 4 percent below the level of eight years earlier.

Early indications suggest a modest rise in global soybean production in 1984-85 with significantly increased production in the United States. Improved yields and increased plantings as last year's idle land area is returned to production, are important factors behind the expected larger U.S. production.

For the longer term, global soybean plantings during the next decade appear likely to expand more slowly than in the 1970s. Additional land in South America can be converted to soybeans, but the needed infrastructure of roads, marketing and farm supply facilities and high real interest costs to support soybean expansion appear likely to keep future acreage expansions at relatively modest rates in the next few years. In the United States the conversion of land from small grains and pasture to soybeans will proceed much more slowly than in the past 15 years, because the area available for such conversion is much smaller now. One development, however, that could bring sharp future expansions in U.S. soybean plantings is the inter-seeding of soybeans in winter wheat. New technology is being developed to permit plantings of soybeans in wheat before the wheat crop is fully mature. The wheat crop then is harvested a few weeks later, and normal-season varieties of soybeans are harvested in the fall. If new technology allows this practice to become widespread, double-cropping of soybeans with wheat could spread much farther north in the U.S. cornbelt than under current conditions.

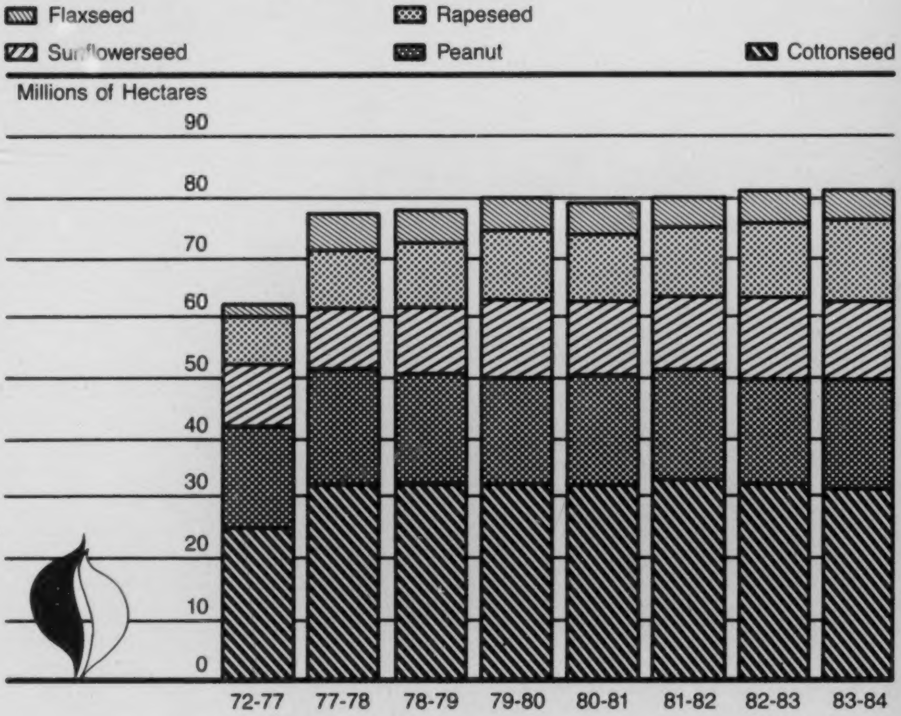
Aggregate world harvested area and yields of major oilseeds are shown in Figure 13, with individual planting trends for cottonseed, sunflowerseed, rapeseed, flaxseed and peanuts (groundnuts) shown in Figure 14. Global sunflowerseed and rapeseed area have trended upward in recent years with increased plantings in North America, China, Argentina and parts of Europe. Sunflowerseed plantings in the United States, however, declined in 1983,

Table 9. Comparative Yields in Metric Tons Per Hectare of Selected Soybean Producing Countries.[a]

	1975-76	1979-80	1981-82	1982-83	Prelim. 1983-84
U.S.	1.94	2.16	2.03	2.15	1.73
Canada	2.32	2.37	2.18	2.35	1.98
Argentina	1.60	1.80	2.09	2.09	2.08
Brazil	1.72	1.73	1.56	1.56	1.69
Australia	1.73	1.83	1.67	1.67	1.35
World	1.65	1.82	1.73	1.73	1.59

[a] Sources: U.S. Department of Agriculture, Foreign Agricultural Service, *Foreign Agriculture Circular, Oilseeds and Products*, FOP 4-78 (Washington, D.C.), April 1978; FOP 5-83 (Washington, D.C.), May 1983; *Foreign Agriculture Circular, World Crop Production*, WCP 4-82 (Washington, D.C.), April 12, 1982; WCP 3-84 (Washington, D.C.), March 9, 1984; and personal communication with officials of the U.S. Department of Agriculture, Foreign Agricultural Service.

Figure 14. World Area Harvested in Millions of Hectares of Selected Oilseeds, 1972-77 Average and 1977-78 through 1983-84.



Source: U.S. Department of Agriculture, Foreign Agricultural Service, *Foreign Agriculture Circular, Oilseeds and Products*, FOP 4-84 (Washington, D.C.), April 1984 and various other issues.

due to indirect effects from the Payment-In-Kind Program for other crops. The global area of cottonseed, flaxseed, and peanuts has remained relatively constant in recent years. Yields per hectare for these crops, as well as sunflowerseed and rapeseed, however, have trended slightly upward in the past decade (see Figure 15).

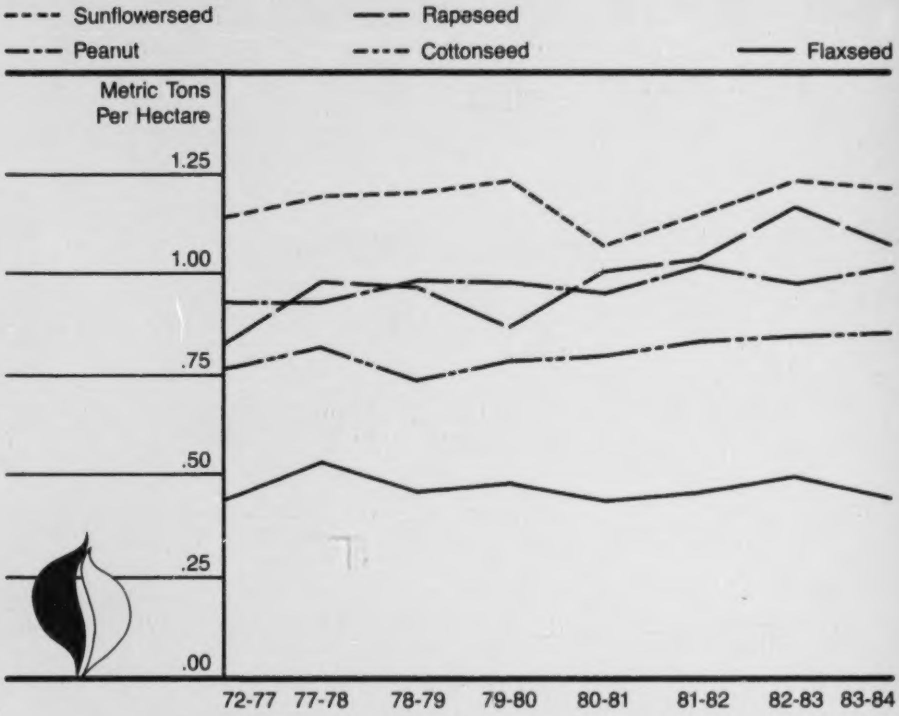
Cassava Root Production

Despite the long-term upward trend in world grain utilization, cassava continues to be an important energy source for human consumption and livestock feeding in some nations. Cassava is a root crop commonly grown in tropical areas. It also is known as tapioca or manioc. Major producting areas, as shown in Table 10, are Brazil, Thailand, Indonesia, Zaire and Nigeria. Production in these and other producing regions trended upward in the 1970s and early 1980s, but has remained relatively steady in the last three or four years.

A sizable part of Thailand's cassava production is exported to the European Community (EC) for use as livestock feed, along with modest exports to the USSR. Cassava is high in energy content but low in protein and requires extensive use of soybean meal or other protein supplements to make satisfactory livestock feeds. Despite the low protein content, it is attractive to EC feed manufacturers because its exclusion from the EC variable levy system allows it to be imported as a grain substitute at a much lower cost than corn. In that sense, it has contributed to an increased EC grain surplus. As a result, the EC has recently negotiated trade agreements with major cassava exporters to limit its imports.[1] In Brazil, part of the cassava crop is intended to be used in alcohol fuel production in the years ahead.

Preliminary estimates indicate global 1983 cassava production declined by 1.3 percent from the previous year, with a sharp increase in Thailand's crop being offset by declines in Africa and Brazil. In Africa, extensive production of cassava partially compensates for the low level of per capita grain production. However, the decrease in 1983 cassava production in that area along with drought-reduced grain harvests contributed to critically short food supplies in the sub-Saharan region.

Figure 15. World Yields in Metric Tons Per Hectare of Selected Oilseeds, 1972-77 Average and 1977-78 through 1983-84.



Source: U.S. Department of Agriculture, Foreign Agricultural Service, *Foreign Agriculture Circular, Oilseeds and Products*, FOP 4-84 (Washington, D.C.), April 1984 and various other issues.

Table 10. Cassava Production In Major Producing Nations from 1979 through 1983 in Millions of Metric Tons.[a]

Area or Country	1973	1979	1980	1981	1982	Prelim. 1983
China	2.0	2.7	3.2	4.0	3.6	3.8
India	6.4	6.1	5.8	5.3	5.1	5.1
Indonesia	11.4	13.8	13.7	13.3	12.8	12.7
Philippines	N.A.	2.2	2.3	2.3	2.3	2.3
Thailand	5.7	11.1	13.8	16.8	16.9	20.2
Far East Total	N.A.	40.5	43.2	46.2	44.6	48.0
Ghana	1.6	1.8	1.8	1.6	2.0	1.5
Mozambique	2.4	2.7	2.8	2.9	2.9	2.0
Nigeria	9.6	10.5	11.0	11.8	11.7	10.0
Tanzania	3.8	4.6	4.6	6.8	7.2	6.8
Zaire	11.0	12.0	12.2	12.4	12.6	12.0
Africa Total	40.1	45.0	46.0	49.7	51.0	47.3
Brazil	26.5	25.0	23.5	24.8	24.0	22.4
Columbia	2.0	1.9	2.2	2.1	2.2	2.2
Latin America Total	31.1	30.1	29.1	31.1	30.5	29.0
World Total	100.5	116.7	119.4	127.2	126.2	124.5

[a] Sources: Food and Agriculture Organization of the United Nations, *Food Outlook*, No. 2, 1983 (Rome, Italy), February 27, 1984; and *Food Outlook, 1983 Statistical Supplement* (Rome, Italy), March 1984.

Table 11. World Pulses Production in Major Producing Areas, 1971-1982, in Millions of Metric Tons.[a]

	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	Prelim. 1982
Asia	21.4	20.6	20.7	19.6	20.4	23.0	21.8	22.3	22.2	19.7	21.2	21.2
Africa	4.5	5.0	4.7	5.0	5.3	5.6	4.9	5.3	5.4	5.3	5.3	5.7
Central America	1.6	1.5	1.6	1.6	1.7	1.3	1.5	1.7	1.5	1.8	2.3	1.9
South America	3.4	3.4	2.9	3.0	3.0	2.6	3.1	3.0	3.1	2.7	3.3	3.9
North America	1.1	1.1	1.0	1.3	1.1	1.1	0.9	1.3	1.3	1.7	1.9	1.6
Western Europe	2.2	2.0	2.0	2.1	1.9	1.6	1.7	1.8	1.8	1.9	1.8	2.0
Eastern Europe	1.0	0.8	0.8	0.9	0.8	0.6	0.7	0.8	0.7	0.7	.9	.8
USSR	6.9	7.1	8.4	8.7	5.3	8.7	7.5	7.8	4.3	6.4	5.6	6.5
Oceania	0.1	0.1	0.1	0.1	0.2	0.2	0.1	0.1	0.2	0.2	.2	.3
World Total	42.2	41.6	42.2	42.3	39.7	44.7	42.2	44.1	40.5	40.4	42.5	43.9

[a]Sources: Food and Agricultural Organization of the United Nations, *Food Outlook 1983 Statistical Supplement* (Rome, Italy), March 1984.

Trends in Global Production of Pulses

Pulses are important in providing protein in diets of people living in developing nations where meat and dairy product consumption is low. For that reason, trends in pulse production give some indication of changes in the quality of diets of such areas. As data in Table 11 indicate, global pulse production in 1982 increased about 3 percent from the previous year but remained slightly below peak levels of the mid to late 1970s. From a longer-term perspective, official estimates show only a 5.5 percent increase in world production of pulses from 1972 to 1982.

Because the total population of Third World nations increased by more than one-fourth during the same time period, these diverging trends reveal declining per capita production of an important source of protein in developing nations. To maintain nutritional levels, increased priority on pulse production in countries where it is a critical factor in diets and/or policies to encourage greater use of other protein sources will be important in the years ahead. Major pulses include green peas, chickpeas, lentils, cowpeas, mung beans, navy beans and other types of edible beans.

World Livestock and Poultry Meat Production Trends

World meat production is an important indicator of changes in demand for coarse grains, protein meal and other feedstuffs. After increasing substantially during the 1970s, world production and consumption of red meat has nearly stabilized in the past three or four years. Slower growth in consumer incomes than in the past decade, relatively high unemployment in some industrial nations and a sharp rise in feed ingredient costs in 1983 and the first half of 1984 were important factors slowing the growth of meat output. Feed conversion efficiency is somewhat greater in poultry meat production than in beef and pork production. At least partly for that reason, global poultry production has increased modestly since 1979, despite nearly stable production of pork and beef.

Table 12. Pork Production in Major World Producing Areas, 1974-78 Average and 1979 Through 1984 in Millions of Metric Tons.[a]

Area	1974-78 Average	1979	1980	1981	1982	Prelim. 1983	Proj. 1984
U.S.	5.9	7.0	7.5	7.2	6.5	6.9	6.5
Other N. America	1.5	2.0	1.8	2.0	2.0	2.0	2.0
South America	1.0	1.1	1.2	1.2	1.2	1.2	1.1
EC-10	8.2	9.1	9.1	9.5	9.4	9.7	9.6
Other W. Europe	1.9	2.2	2.4	2.3	2.5	2.5	2.5
E. Europe	6.3	6.8	6.9	6.6	6.4	6.5	6.2
USSR	5.2	5.3	5.2	5.2	5.3	5.6	5.9
Asia (Exc. PRC)	2.0	2.7	2.7	2.6	2.6	2.8	2.9
Oceania	.2	.2	.2	.2	.2	.2	.2
Total[b]	32.2	36.5	37.0	36.8	36.1	37.4	36.9

[a]Source: U.S. Department of Agriculture, Foreign Agricultural Service, *Foreign Agriculture Circular, Livestock and Poultry Situation*, FL & P 2-83 (Washington, D.C.), May 1983 and FL & P 1-84 (Washington, D.C.), April 1984.

[b]Totals may not add due to rounding.

Pork and Beef Production

Table 12 indicates that North American pork production has declined moderately in the 1980s. The decline is caused partly by a cyclical pattern in U.S. pork production as well as the protective price and trade policies of other nations, which tend to force a disproportionate share of the adjustment to tight world grain supplies into the U.S. livestock industry. In contrast to an 11 percent expected decline in U.S. pork production between 1980 and 1984, Soviet pork production increased an estimated 13 percent in the same period. Pork production also has increased since 1980 in other major pork-producing areas, with the exception of Eastern Europe. East European nations, as a group, have experienced an estimated 6 percent decline in pork production since 1980 because of economic problems, inadequate domestic feed supplies and lack of credit availability for imports of coarse grain and protein meal. The most severe decline occurred in Poland, where pork production has fallen an estimated 26 percent since 1980.

In contrast to pork, U.S. and North American beef production has increased slightly since 1980 (see Table 13). However, the increase has not necessarily been associated with increased feeding of grain to cattle. Instead, the increased beef production was caused partly by culling of breeding stock in severe 1983 drought areas and the 1984 U.S. Payment-In-Cash Program, which encourages U.S. dairy farmers to reduce dairy herds and milk production. Beef production in the EC, Oceania and South America has declined slightly since 1980, because of economic problems, drought in some areas and the influence of rising grain prices. Early forecasts are that Soviet beef production in 1984 will be about 6 percent higher than four years earlier.

Poultry Meat Output Expands Slightly

In the past four years, poultry meat production continued to expand in the United States, Western Europe, South America, the Soviet Union and Japan. The one major exception to this upward trend was Eastern Europe, where poultry meat output has fallen an estimated 11 percent since 1980. Within Eastern Europe, production trends were widely divergent, with moderate increases being reported in East Germany, Bulgaria, Hungary, Romania and Yugoslavia. However, Poland's poultry meat output has fallen by an estimated 65 percent from its peak level in 1981 along with a 7 percent decline in Czechoslovakia since 1980. While some increase in the poultry output of these nations seems likely in the next few years, large foreign debts and limited availability of credit appear likely to hold the expansion rate well below that of the 1970s.

Table 13. Beef and Veal Production in Major World Producing Areas, 1974-78 Average and 1979 Through 1984 in Millions of Metric Tons.[a]

Area	1974-78 Average	1979	1980	1981	1982	Prelim. 1983	Proj. 1984
				(Carcass Weight)			
U.S.	11.5	9.9	10.0	10.4	10.4	10.7	10.6
Other N. America	2.2	2.3	2.2	2.3	2.4	2.3	2.3
South America	6.1	6.4	6.3	6.6	6.4	6.4	6.3
EC-10	6.6	6.9	7.0	6.9	6.6	6.8	6.9
Other W. Europe	1.1	1.1	1.3	1.2	1.2	1.2	1.1
Eastern Europe	2.5	2.6	2.5	2.3	2.4	2.3	2.3
USSR	6.7	6.9	6.6	6.6	6.6	6.8	7.1
South Africa	0.5	0.6	0.6	0.5	0.6	0.6	0.6
Asia (Exc. PRC)	0.8	0.9	1.0	1.0	1.1	1.1	1.1
Oceania	2.4	2.3	2.0	1.9	2.2	1.9	1.8
Total[b]	40.3	40.0	39.5	39.7	39.9	40.1	40.1

[a] Source: U.S. Department of Agriculture, Foreign Agricultural Service, *Foreign Agriculture Circular, Livestock and Poultry Situation*, FL & P 2-83 (Washington, D.C.), May 1983 and FL & P 1-84 (Washington, D.C.), April 1984.

[b] Totals may not add due to rounding.

Table 14. Total Poultry Production in Major World Producing Areas, 1974-78 Average and 1979 Through 1984 in Millions of Metric Tons.[a]

Area	1974-78 Average	1979	1980	1981	1982	Prelim. 1983	Proj. 1984
U.S.	5.3	6.5	6.6	7.0	7.0	7.2	7.3
Other N. America	.8	.9	1.0	1.1	1.1	1.0	1.0
South America	1.0	1.5	1.8	2.0	2.1	2.1	2.1
EC-10	3.4	3.8	3.9	4.1	4.4	4.3	4.3
Other W. Europe	.9	1.0	1.2	1.2	1.2	1.1	1.1
Eastern Europe	1.6	1.9	1.9	2.0	1.7	1.8	1.8
Soviet Union	1.5	2.0	2.1	2.3	2.4	2.6	2.7
Africa	.2	.4	.5	.5	.5	.6	.6
Japan	.9	1.1	1.2	1.1	1.2	1.3	1.3
Other Asia and Oceania	.4	.5	1.0	1.0	1.2	1.2	1.5
Total[b]	16.1	19.7	21.2	22.3	22.8	23.2	23.7

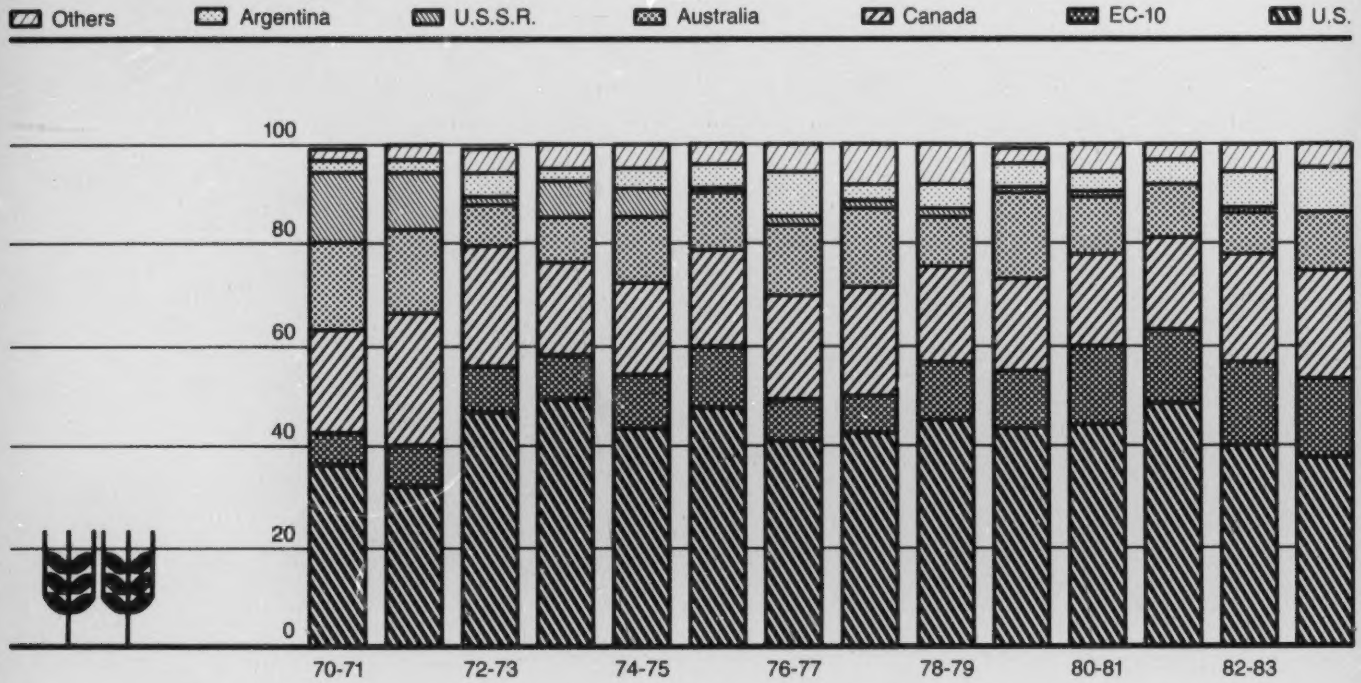
[a] Source: U.S. Department of Agriculture, Foreign Agricultural Service, *Foreign Agriculture Circular, Livestock and Poultry Situation*, FL & P 2-83 (Washington, D.C.), May 1983 and FL & P 1-84 (Washington, D.C.), April 1984.

[b] Totals may not add due to rounding.

U.S. Share of World Wheat Trade Declines, Coarse Grain Share Increases

During the 1970s, the U.S. share of global wheat exports rose dramatically, as U.S. wheat growers and the U.S. grain marketing and handling system were able to respond quickly to the rapidly expanding world demand. U.S. competitiveness in world wheat trade also was enhanced by a depreciation of the U.S. dollar in world foreign exchange markets and at times by advantageous government financial assistance to importing nations. As a result, the U.S. share of global wheat exports rose from 36 percent in 1970-71 to a high of 48 percent in 1981-82. In the past two years, however, the upward trend in the U.S. trade share has been dramatically reversed, with the 1983-84 U.S. share of global wheat exports dropping to about 38 percent. That is only slightly higher than at the start of the last decade (see Figure 16).

Figure 16. Percentage Shares of World Wheat Trade by Major Exporters, July-June, 1970-71 to 1983-84.

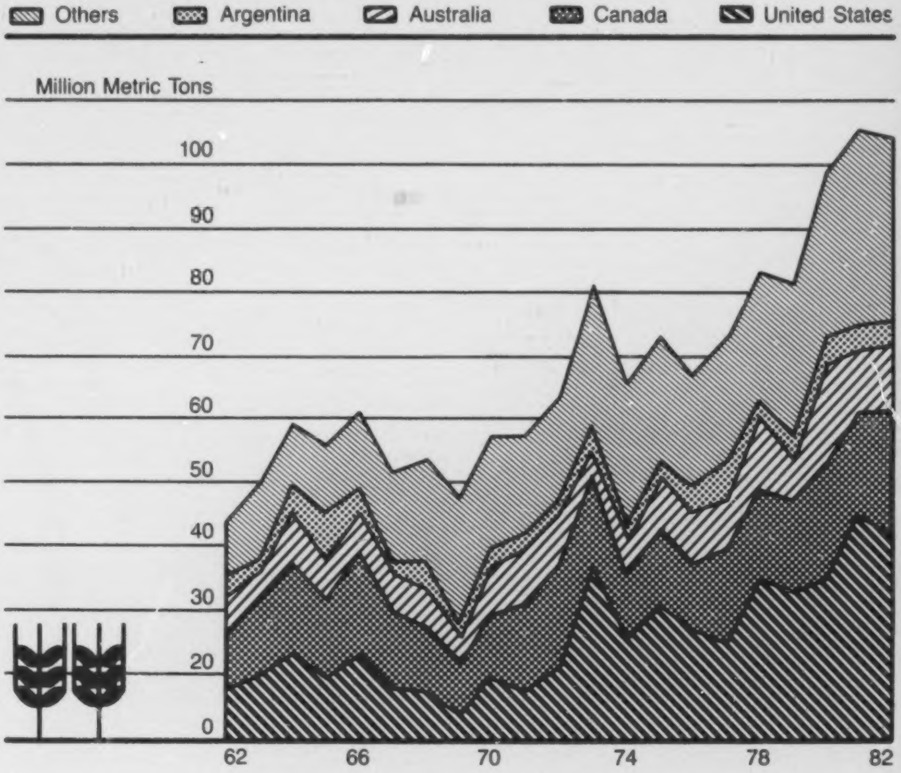


Source: United States Department of Agriculture, Foreign Agricultural Service, *Foreign Agriculture Circular, Grains*, FG 7-84 (Washington, D.C.), April 1984; and various other issues.

Reasons for Declining U.S. Share of Global Wheat Trade

The decline in the U.S. trade share has been associated mainly with rising trade shares in Argentina, Australia and Canada. Australia's share of global wheat exports has fluctuated widely over time, because of a highly variable climate. For example, Australia's 1982-83 exports were curtailed by one of the most severe droughts in recent history, which sharply reduced wheat production. The expanded 1983-84 trade share of Australia reflects vastly improved weather and sharply increased wheat production. Argentina and Canada have made agricultural policy changes to encourage expanded grain exports—including modernization of grain handling, transportation and port facilities and a more market-oriented pricing system in Argentina. Competition from these two exporters may well increase in the years ahead. The European Community's share of global wheat exports has trended sharply upward during the past 13 years, although the rate of increase has slowed since 1980-81. Expanded EC wheat exports reflect a growing self-sufficiency in that area in response to high internal price supports that encourage production and discourage utilization. The EC share of 1983-84 world wheat trade likely would have increased further, except for strong pressure from the United States to curtail its export subsidies. As a result, the EC increased its domestic wheat feeding in 1983-84. Increased use of wheat for livestock feed in the EC likely reduced that area's total coarse grain imports from levels that otherwise would have prevailed. As will be noted in the policy section of this report, U.S. economic and agricultural price support policies also appear to have contributed to the recent declining U.S. share of global wheat exports. Future trends in the U.S. trade share will depend heavily on domestic reserve and price support policies as well as fiscal and monetary policies, which affect the exchange rate of the U.S. dollar against the currency of wheat-importing nations.

Figure 17. World Wheat Exports by Country of Origin, Calendar Years 1962 to 1982.

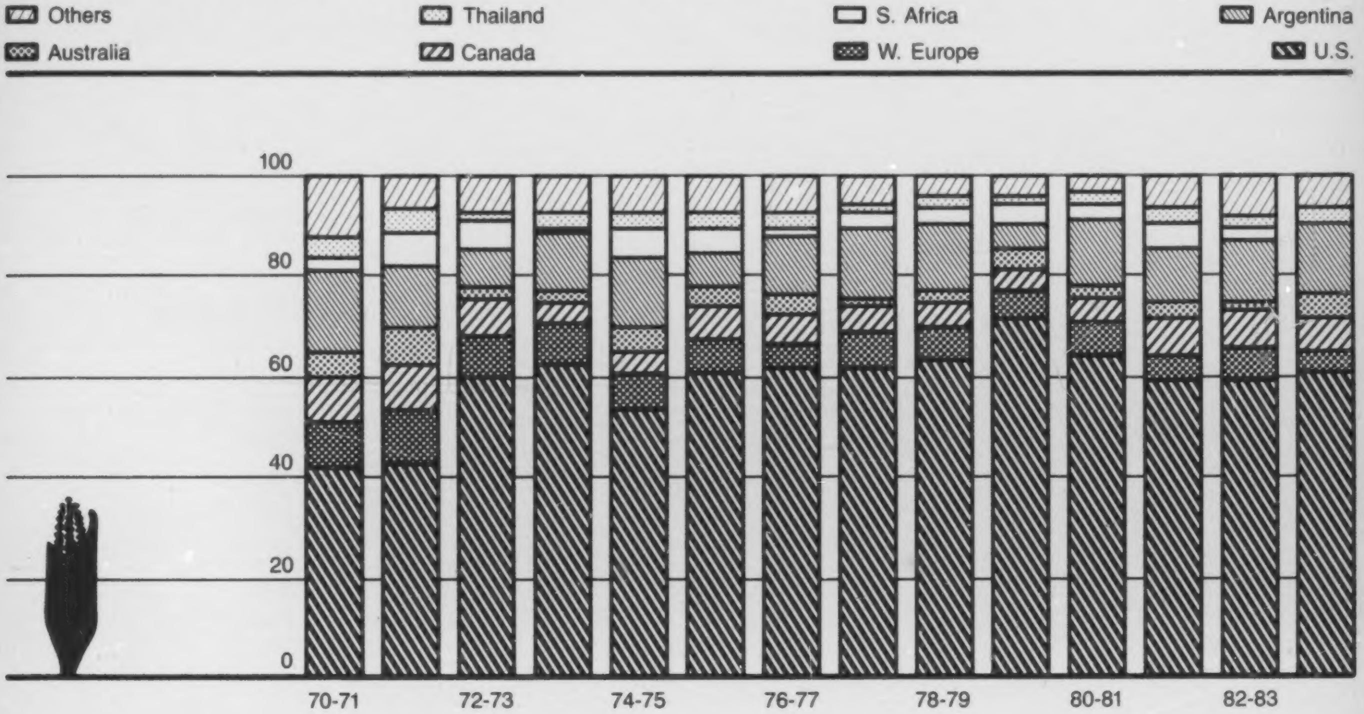


Source: Food and Agriculture Organization of the United Nations, *Trade Yearbook* (Rome, Italy), various issues.

Coarse Grain Trade Shares

In contrast to wheat, the U.S. share of world coarse grain exports increased slightly in 1983-84 (see Figure 18). The small increase in the U.S. share reflects a severe drought in South Africa for the second consecutive year with that country temporarily becoming a net coarse grain importer. Normally, South Africa is the world's third-ranking corn exporter, behind the United States and Argentina. As Figure 18 illustrates, South Africa temporarily halted corn exports in the mid and late 1960s and mid-1970s for similar reasons. Thus, it is likely that nation will again regain its place as a significant corn exporter in the years ahead.

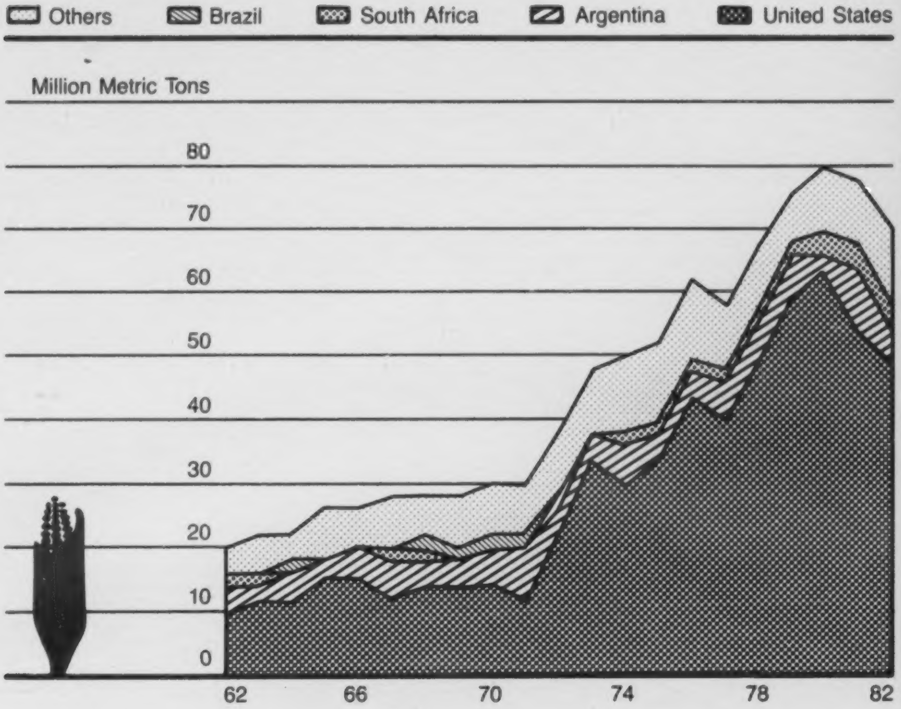
Figure 18. Percentage Shares of World Coarse Grain Exports By Major Exporters, 1970-71 to 1983-84.



Source: United States Department of Agriculture, Foreign Agriculture, Foreign Agricultural Service, *Foreign Agriculture Circular. Grains*, FG 7-84 (Washington, D.C.), April 1984; and various other issues. Marketing year data were accumulated on a July-June basis from 1970-71 through 1978-79. The USDA switched to an October-September fiscal year starting in 1979-80.

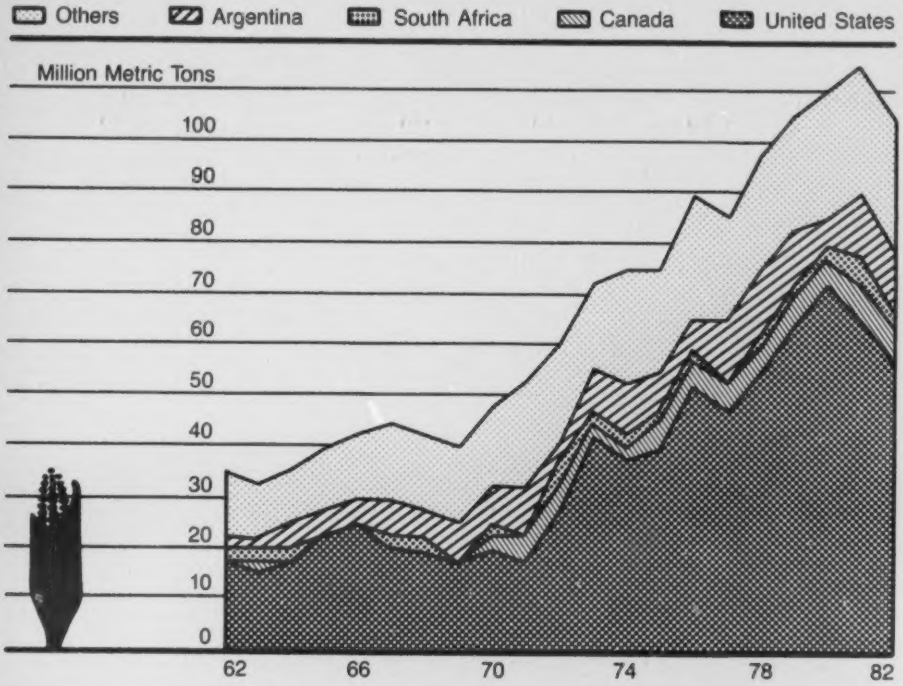
Australia's share of global coarse grain exports dropped sharply in 1982-83, because of a severe drought that sharply curtailed production. Improved weather allowed the 1983-84 Australian share to recover to the highest level since 1971-72. Argentina and Thailand have experienced sizable year-to-year fluctuations in their shares of global coarse grain exports—because of fluctuating climatic conditions in their respective grain belts. The West European share of global coarse grain exports has trended irregularly downward in the last 13 years. The sharp decline in 1983-84 is caused partly by adverse weather and below normal production in 1983 in some European nations. After a sharp decline in its trade share in the mid-1970s, Canada has experienced a rising share of world coarse grain exports in the past three years.

Figure 19. World Corn Exports by Country of Origin, Calendar Years 1962 to 1982.



Source: Food and Agriculture Organization of the United Nations, *Trade Yearbook* (Rome, Italy), various issues.

Figure 20. World Coarse Grain Exports by Country of Origin, Calendar Years 1962 to 1982.



Source: Food and Agriculture Organization of the United Nations, *Trade Yearbook* (Rome, Italy), various issues.

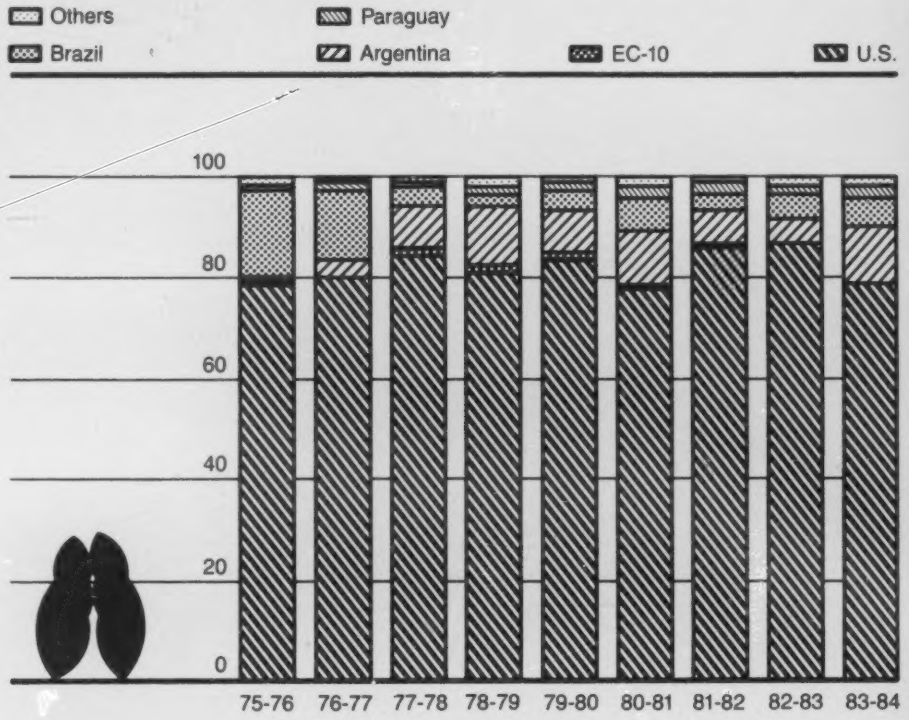
Figures 19 and 20 provide additional perspective on the trend of global corn and coarse grain exports. As these charts indicate, nearly two thirds of the world's coarse grain exports originate from the United States. Approximately two-thirds to three-fourths of global corn exports come from the United States with the remainder primarily reflecting exports from South America, South Africa, Canada, Thailand and France. Brazil was occasionally a modest exporter of corn during the 1960s and 1970s. Although its government policies in recent years have attempted to encourage corn exports, less than ideal weather and growing domestic demand so far have not allowed that goal to be reached.

Soybean and Soybean Product Trade Shares

Soybeans

The U.S. share of global soybean exports declined moderately in 1983-84 (see Figure 21), thus deviating significantly from the long-term upward trend. The declining U.S. share was offset by enlarged trade shares for Argentina, Brazil and Paraguay. Weather patterns and the U.S. Payment-In-Kind Program appear to be the main influences behind these changing 1983-84 trade patterns. U.S. exportable soybean supplies fell sharply because of the combined influences of reduced soybean plantings and a severe drought across the nation's midsection. Reduced plantings reflected an 11 percent cut in U.S. soybean area caused by indirect effects of the government Payment-In-Kind Program for other crops. With these temporary developments, the U.S. share of global soybean exports will likely recover in the immediate future.

Figure 21. Percentage Shares of World Soybean Trade by Major Exporters, October-September, 1975-76 to 1983-84.

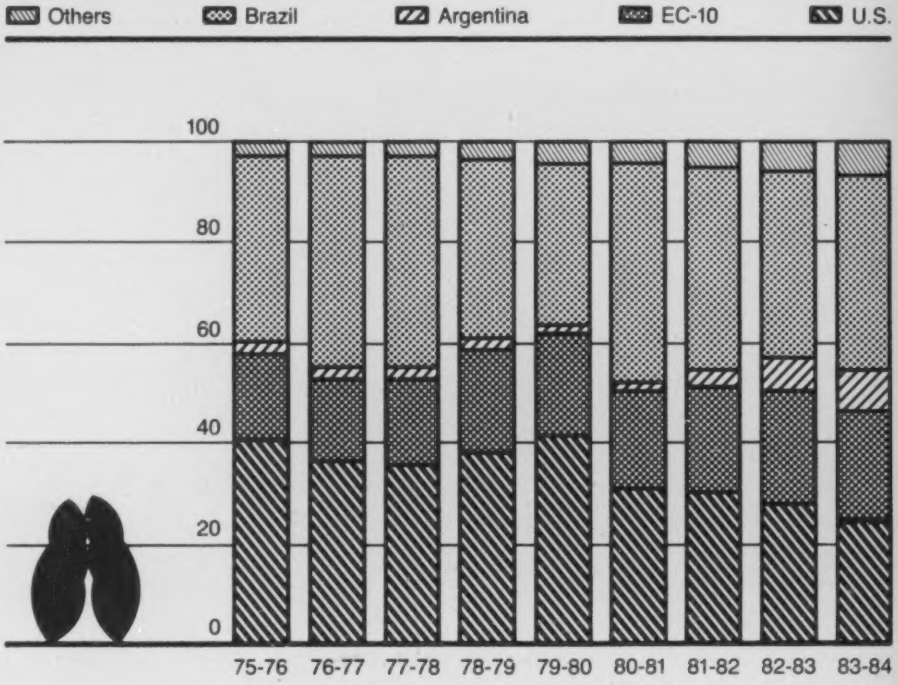


[a]Source: U.S. Department of Agriculture, Foreign Agricultural Service, *Foreign Agriculture Circular, Oilseeds, and Products,* FOP 5-83 (Washington, D.C.), May 1983; FOP 11-82 (Washington, D.C.), September 1982; FOP 16-81 and FOP 10-80 (Washington, D.C.), September 1981; FOP 1-81 (Washington, D.C.) January 1981; FOP 10-80 (Washington, D.C.), May 1980; and FOP 4-84 (Washington, D.C.), April 1984.

Soybean Meal

Compared to the trend in exports of unprocessed soybeans, the U.S. soybean meal trade share has trended steadily downward in recent years, and 1983-84 was no exception. The United States now accounts for only about one ton of soybean meal out of every four traded in world markets, down sharply from the 41 to 42 percent share at times during the 1970s (see Figure 22). Argentina, EC and Spain and Portugal (in the "other" category in Figure 22) have been the main benefactors of the declining U.S. soybean meal trade share. Brazil's trade share has fluctuated substantially from year to year depending on the size of its crop, but is lower now than six or seven years ago. Increased exports of meal by Argentina, EC and Southern Europe reflect their governments' policies, which tend to encourage exports of value-added products such as soybean meal and oil. Value-added exports enable processing nations to expand domestic employment and retain profits resulting from the processing operations. Policies being used to encourage such trade patterns will be discussed in a later section of this report. At this time, a major shift in such trade policies appears unlikely. Thus, the U.S. share of world soybean meal exports may drift slightly downward in the years ahead, with negative implications for a U.S. soybean-processing industry already burdened by excess capacity. A high percentage of soybeans processed in Europe are produced in the United States and shipped to that area for processing into protein meal and vegetable oil.

Figure 22. Percentage Shares of World Soybean Meal Trade by Major Exporters, October-September, 1975-76 to 1983-84.

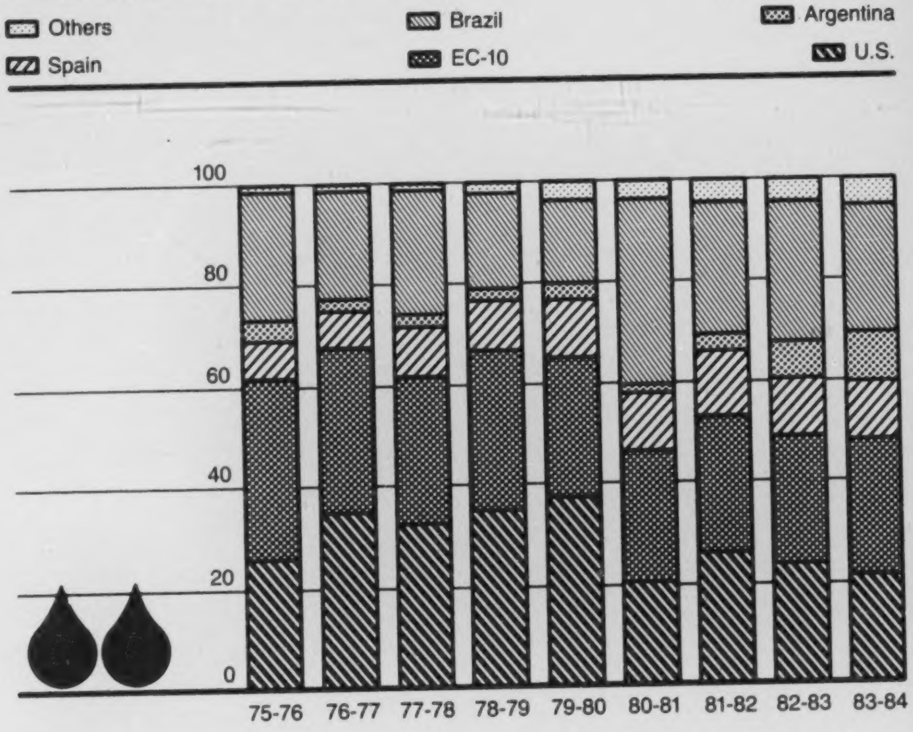


Source: U.S. Department of Agriculture, Foreign Agricultural Service. *Foreign Agriculture Circular, Oilseeds, and Products*, FOP 5-83 (Washington, D.C.), May 1983; FOP 11-82 (Washington, D.C.), September 1982; FOP 16-81 (Washington, D.C.), September 1981; FOP 1-81 (Washington, D.C.), January 1981; and FOP 10-80 (Washington, D.C.), May 1980; and FOP 4-84 (Washington, D.C.), April 1984.

Soybean Oil

U.S. soybean oil's share of global trade has followed a pattern similar to that for soybean meal because of strong competition from processors in Western Europe and Argentina. Preliminary estimates place the 1983-84 U.S. share of world soybean oil exports at 22 percent, down sharply from the 38 percent share in 1979-80. Part of the decline, however, was caused by the abnormally small 1983 U.S. soybean crop and a resulting sharp decline in 1983-84 U.S. soybean processing activity. In the next year or two, with more favorable weather, it would not be surprising to see a small rise in the U.S. share of global soybean oil trade. Long-term trends in the American trade share will depend heavily on U.S. and foreign nations' policies toward the soybean-processing industry.

Figure 23. Percentage Shares of World Soybean Oil Trade by Major Exporters, October-September, 1975-76 to 1983-84.



Source: U.S. Department of Agriculture, Foreign Agricultural Service, *Foreign Agriculture Circular, Oilseeds, and products*, FOP 5-83 (Washington, D.C.), May 1983; FOP 11-82 (Washington, D.C.), September 1982; FOP 16-81 (Washington, D.C.), September 1981; FOP 1-81 (Washington, D.C.), January 1981; and FOP 10-80 (Washington, D.C.), May 1980; and FOP 4-84 (Washington, D.C.), April 1984.

Trade Shares in Livestock Product Exports

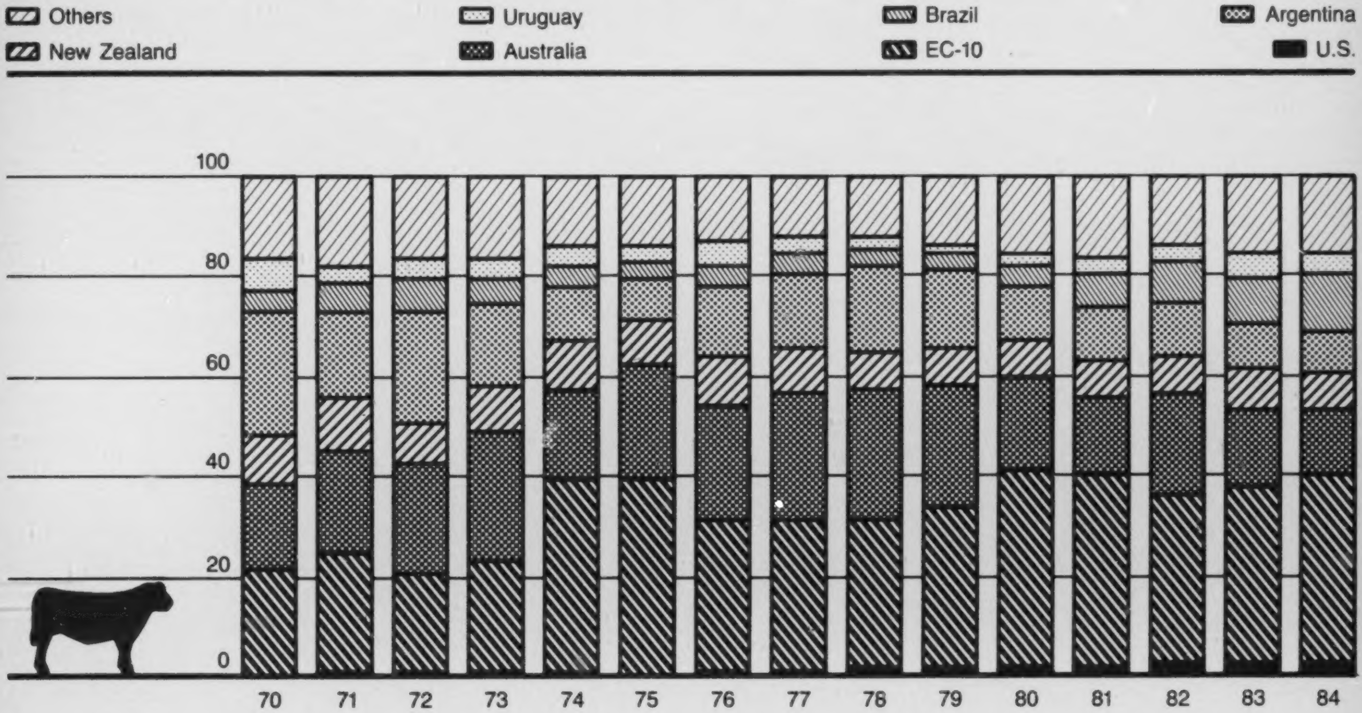
Beef and Veal Exports

The U.S. share of global beef exports has trended slightly upward over the past 14 years, including 1983 and 1984. However, the United States still has only a minor share of world beef exports. One reason is that most trade in beef is in lower quality products rather than the highly-finished beef typically produced in the United States. The U.S. beef export share rose from 2.7 percent in 1983 to a projected 3.0 percent in 1984. That is up from only a 0.6 percent share in 1970.

Major foreign beef exporters in order of importance include the EC, Australia, Brazil, Argentina and New Zealand. The EC-10 share of global beef exports has trended strongly upward over the past one and one-half decades as the Community moved into a position of increasing surplus production. The EC's expanded trade share came largely at the expense of Argentina and Australia, whose export shares trended downward over the same period. Sizable short-term fluctuations in Australia's export share reflect a highly variable climate in that nation, with herd liquidation during drought years tending to expand beef supplies. Then in years of favorable pasture conditions, animals are retained by producers to rebuild breeding herds, with a resulting decline in beef production.

Australia was in a herd expansion phase in late 1983 and early 1984 because of favorable rainfall and pasture conditions after the previous year's severe drought. Argentina's long-term decline in its beef export share partially reflects a recent shift to greater emphasis on wheat, corn, sorghum and soybean production.

Figure 24. Percentage Shares of World Beef and Veal Trade by Major Exporters, 1970-84 Calendar Years.



Sources: U.S. Department of Agriculture, Foreign Agricultural Service, *Foreign Agriculture Circular, Livestock and Poultry Situation*, FL&P 2-83 (Washington, D.C.), May 1983; *Foreign Agriculture Circular, Livestock and Meat*, FLM 2-81 (Washington, D.C.), February 1981; FLM 2-80 (Washington, D.C.), February 1980; FLM 10-78 (Washington, D.C.), September 1978; FLM 9-78 (Washington, D.C.), September 1978; and FL&P 1-84 (Washington, D.C.), April 1984.

Pork Export Shares

The EC also is the world's largest pork-exporting area, by a wide margin (see Figure 25). Unlike its position in beef trade, however, the EC share of world pork exports has declined moderately since 1970. Its declining share has been offset by expanded pork exports from Canada and Eastern Europe. The rising East European pork trade share partly reflects efforts by nations in that region to expand processed farm product exports as a means of obtaining foreign exchange for import purchases and debt repayments. The United States remains a relatively small exporter of pork in comparison with the EC and Eastern Europe. The U.S. share of global pork exports has held almost constant at 3.1 to 3.5 percent in the last three years, but is about half as large as its record export share in 1976. While some growth in the U.S. pork export share is possible in the years ahead, American producers face substantial import barriers in other countries and strong competition from foreign producers.[2]

Trade Shares in Poultry Meat Exports

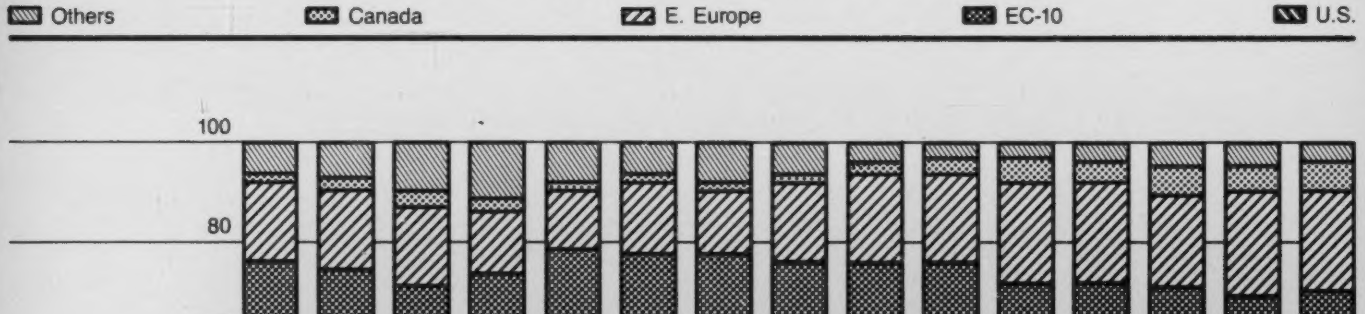
As Table 15 indicates, the U.S. share of world poultry meat trade has dropped sharply in the last nine years because of rapidly expanding production and exports in Brazil and continued strong competition from the EC and Eastern Europe. The U.S. share of global poultry meat exports dropped from 29 percent in 1980 to a projected 17 percent in 1984, and total U.S. poultry meat exports on a tonnage basis fell by 22 percent during the same time period. Shifting trade patterns reflect several developments including (1) substantial strength of the U.S. dollar against foreign currencies, (2) debt pressures in Eastern Europe and Brazil encouraging greater emphasis on value-added exports to earn needed foreign exchange, (3) changing U.S. dietary patterns resulting in increased U.S. domestic consumption of poultry meat and (4) EC agricultural policies contributing to surplus poultry production in that group of nations. In the next few years, these same forces appear likely to continue as restraining influences on U.S. poultry meat exports.

Table 15. World Poultry Meat Exports By Major Exporters, 1974-78 Average and 1979 Through 1984 in Thousands of Metric Tons.[a]

Area	1974-78 Average	1979	1980	1981	1982	Prelim. 1983	Proj. 1984
U.S.	148	228	316	375	261	225	206
Brazil	23	81	170	295	302	289	305
EC-10	473	605	675	830	826	846	842
Eastern Europe	173	196	207	289	310	336	297
World Total[b]	853	1,156	1,439	1,837	1,736	1,730	1,683

[a] Source: U.S. Department of Agriculture, Foreign Agricultural Service. *Foreign Agriculture Circular, Livestock and Poultry Situation*, FL & P 1-84 (Washington, D.C.), April 1984, and FL & P 2-83 (Washington, D.C.), May 1983.

Figure 25. Percentage Shares of World Pork Trade by Major Exporters, 1970-84 Calendar Years.

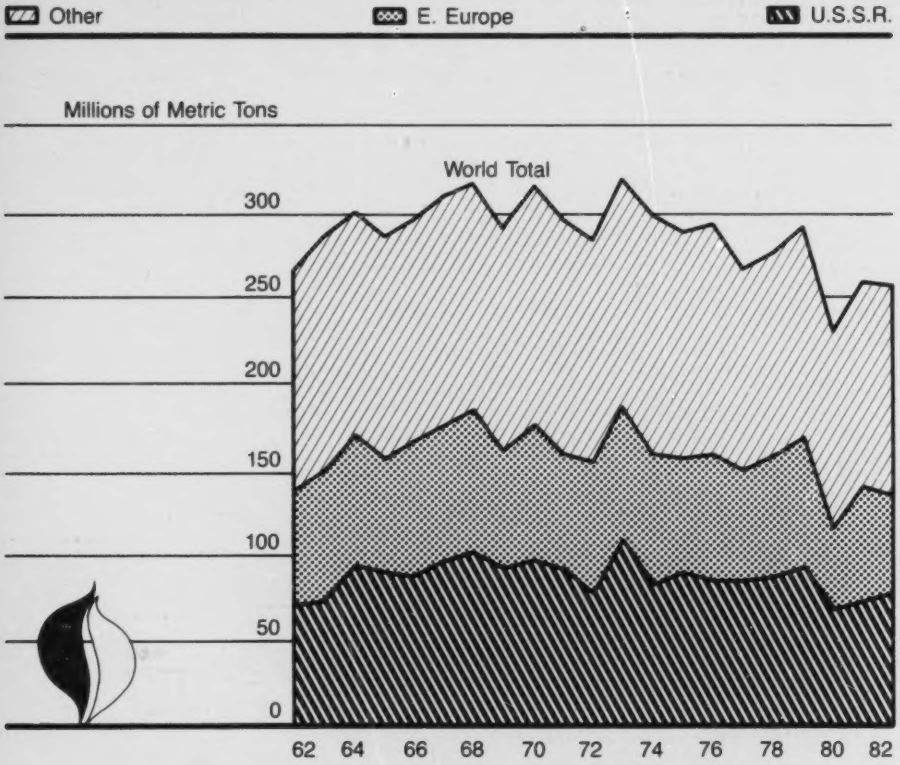


Sources: U.S. Department of Agriculture, Foreign Agricultural Service, *Foreign Agriculture Circular, Livestock and Poultry*, FL&P 1-82 (Washington, D.C.), April 1982, *Foreign Agriculture Circular, Livestock and Meat*, FLM 2-81 (Washington, D.C.), February 1981, FLM 2-80 (Washington, D.C.), February 1980, FLM 10-78 (Washington, D.C.), September 1978; FLM 9-78 (Washington, D.C.), September 1978; and FL&P 1-84 (Washington, D.C.), April 1984.

Potato Production Trends in Eastern Europe and USSR

Potatoes are an important source of livestock feed in Eastern Europe and USSR, in addition to their use for direct human consumption. Figure 26 shows the trend in production in these areas and world production since 1962. Production in both USSR and Eastern Europe has declined substantially since the late 1960s and early 1970s. For example, Soviet potato production in 1982 was an estimated 24 percent below the 1968 level. East European potato production during the same period declined by an estimated 30 percent. World production of potatoes also has declined since the late 1960s. As a result, the combined USSR-East European share of world production dropped only slightly, from 58 percent in 1968 to an estimated 53 percent share in 1982. The long-term downward trend in potato production in these centrally planned nations indicates grains and protein meal are receiving greater emphasis in livestock production. If this trend continues, it could contribute to increased grain feeding in Soviet-Bloc nations, along with the upward trend in USSR livestock and poultry numbers.

Figure 26. World Potato Production in Millions of Metric Tons by Major Producing Areas, 1962-82 Calendar Years.



Source: U.S. Department of Agriculture, Foreign Agricultural Service, *Foreign Agriculture Circular, Grains*, FG 25-76 (Washington, D.C), October 7, 1976; FG 4-83 (Washington, D.C.), February 15, 1983; FG 10-83 (Washington, D.C.), April 12, 1983; SG 6-84 (Washington, D.C.), April 10, 1984; and FG 7-84 (Washington, D.C.), April 1984.

Developments in Soviet Agricultural Production, Consumption and Trade

Because of large year-to-year fluctuations in its grain imports, the Soviet Union continues to be a key influence on the level of world grain trade and has considerable impact on world grain prices. Its importance as a price influencing factor is caused not only by the size of its imports, but also is related to the Soviet Union's centralized grain-purchasing system. Import decisions in USSR are made by a small group of government officials who can contract for the nation's entire annual grain import needs in a very short period of time, if they so desire. This centralized purchasing procedure sets the stage for an ever-present element of surprise in Soviet buying patterns, with grain merchandisers throughout the world continuously watching Soviet weather, political developments and other factors that might reveal likely purchasing patterns. Japan also is a large grain importer. However, its private enterprise economy spreads purchase decisions over a much larger group of decision makers than in the Soviet Union and the element of potential surprise is much less significant than with USSR. In addition, Japan's grain import levels are relatively stable from year to year. As a result, only very minor world grain price reactions usually follow Japanese purchase announcements.

1983 Grain Production Up

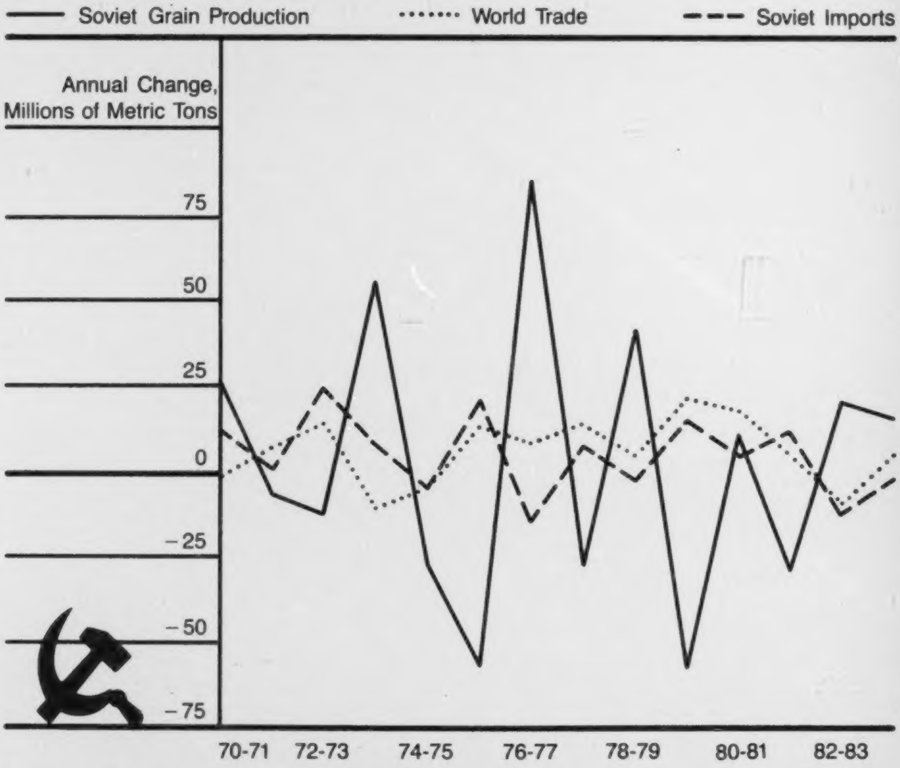
After four consecutive years of unfavorable weather and disappointing crops, USSR grain production rose modestly in 1983. Preliminary U.S. Department of Agriculture estimates place 1983 Soviet grain production at 195 million metric tons—8 percent above a year earlier and 22 percent above the most recent low point in 1981. However, 1983 production still fell 18 percent below the record harvest in 1978 and was well below planned output. Soviet imports in 1983-84 have held near the previous season's level, about one-third less than the record imports of two years earlier. Preliminary estimates indicate total imports for the 1983-84 trade year will be the fourth largest on record.

Soviet crop problems in 1983 were concentrated largely in wheat. Its wheat production fell 9 percent below the mediocre crop of the previous year and 36 percent below the 1978 record, for the second smallest wheat harvest since 1972. In contrast, the Soviet coarse grain harvest in 1983 is estimated to have equaled the 1978 crop—the second largest on record. Soviet coarse grain imports in 1983-84 are estimated at only about two-fifths the record level of two years earlier. Soviet wheat imports, however, approximately matched the previous season's record level.

Long-Term Trends

From a long-term perspective, Soviet grain imports remain large despite the decline from the 1981-82 record level. Total USSR imports of all grains in the trade year ended June 30, 1984, on a tonnage basis were about one-third larger than in 1972-73 when that nation first emerged as a consistently large net grain importer. Soviet use of grain for food, industrial and seed purposes appears to have remained nearly constant in the past dozen years. Use of grain in livestock feed rose sharply from 1972 to 1977 but has since fluctuated in a relatively

Figure 27. The Soviet Role in Fluctuating World Grain Trade.



Source: U.S. Department of Agriculture, Foreign Agricultural Service, *Foreign Agriculture Circular, Grains*, FG 25-76 (Washington, D.C.), October 7, 1976; FG 4-83 (Washington, D.C.), February 15, 1983; FG 10-83 (Washington, D.C.), April 12, 1983; SG 6-84 (Washington, D.C.), April 10, 1984; and FG 7-84 (Washington, D.C.), April 1984.

Table 16. Soviet Grain, Soybean and Soybean Meal Importing Patterns in Millions of Metric Tons, 1975-76 Through 1983-84[a]

	1975-76	1976-77	1977-78	1978-79	1979-80	1980-81	1981-82	Est. 1982-83	Proj. 1983-84
Wheat Imports:[b]	10.1	4.6	6.6	5.1	12.0	16.0	19.5	20.2	20.0
Coarse Grain Imports:[b]	15.6	5.7	11.7	10.0	18.4	18.0	25.5	11.3	12.1
Total Imports, Wheat and Coarse Grains	25.7	10.3	18.4	15.1	30.4	34.0	45.0	31.5	32.1
Percentage from U.S. Origin	54%	72%	78%	74%	50%	24%	34%	20%	29%
Soybean Imports:[a]	1.7	1.5	0.9	1.8	1.5	1.5	1.5	1.0	1.1
Percentage from U.S. Origin	18%	62%	93%	67%	54%	0%	40%	40%	54%
Soybean Meal Imports:[a]	0.0	0.1	0.0	0.5	0.3	1.1	1.2	2.6	1.5
Percentage from U.S. Origin	0%	100%	0%	10%	0%	0%	0%	0%	0%

[a] Sources: U.S. Department of Agriculture, Foreign Agricultural Service, *Foreign Agriculture Circular, Grains*, FG 23-82 (Washington, D.C.), July 16, 1982; FG 10-83 (Washington, D.C.), April 12, 1983; SG 8-84 (Washington, D.C.), June 12, 1984; *Foreign Agriculture Circular, Oilseeds and Products*, FOP 4-81 (Washington, D.C.), March 1981; FOP 9-82 (Washington, D.C.), July 1982; FOP 4-83 (Washington, D.C.), April 1983; FOP 6-84 (Washington, D.C.), June 1984; U.S. Department of Agriculture, Agricultural Marketing Service, *Grain Market News* (Independence, Mo.), various issues; U.S. Department of Agriculture, Agricultural Marketing Service, *Feed Market News* (Independence, Mo.); and U.S. Department of Agriculture, Foreign Agricultural Service, *U.S. Export Sales* (Washington, D.C.), June 4, 1982, various issues.
[b] July-June trade years.
[c] October-September marketing years.

narrow range despite increasing livestock and poultry production. Thus, it appears that efficiency of the Soviet livestock sector has improved significantly since the early 1970s. Further improvements in livestock and poultry production efficiency seem likely in the years ahead through improvements in animal genetics, balanced rations, management in livestock and poultry operations, animal health programs, and new technology. Thus, Soviet grain-feeding levels may continue to rise somewhat more slowly than the growth rate in meat production.

In the grains sector, Soviet crop yields fluctuate widely from year to year, caused partly by a highly variable climate (see Table 17). Overall yields, however, appear to have shown very little upward trend in the past decade. Wheat area harvested has declined slightly since 1974, while coarse grain area has held nearly constant. Thus, total Soviet grain area harvested in 1983 actually was slightly smaller than a decade earlier.

Table 17. Soviet Yields in Metric Tons Per Hectare, and Harvested Area Devoted to Grains, 1965-66 Through 1983-84.[a]

	Wheat		Coarse Grains		Total Grain[b]	
	Tons/ Hectare	Mil. Hectares	Tons/ Hectare	Mil. Hectares	Tons/ Hectare	Mil. Hectares
Projected						
1984-85	1.60	53.0	1.61	59.0	1.57	121.0
Preliminary						
1983-84	1.55	50.4	1.68	62.4	1.60	121.5
1982-83	1.50	57.3	1.48	58.0	1.46	123.0
1981-82	1.35	59.2	1.24	58.0	1.27	125.5
1980-81	1.60	61.5	1.40	57.9	1.49	126.6
1979-80	1.56	57.7	1.33	61.2	1.42	126.4
1978-79	1.92	62.9	1.82	58.0	1.85	128.5
1977-78	1.49	62.0	1.53	60.6	1.50	130.3
1976-77	1.63	59.5	1.89	60.9	1.75	127.8
1975-76	1.07	62.0	1.13	58.1	1.10	127.9
1974-75	1.41	59.7	1.68	59.4	1.54	127.2
1973-74	1.74	63.1	1.83	53.2	1.76	126.7
1972-73	1.47	58.5	1.36	53.5	1.40	120.2
1971-72	1.54	64.0	1.56	46.4	1.54	117.9
1970-71	1.53	65.2	1.65	46.6	1.57	119.3
1969-70	1.20	66.4	1.48	48.6	1.32	122.7
1968-79	1.39	67.2	1.41	47.0	1.40	121.5
1967-68	1.16	67.0	1.30	47.5	1.21	122.2
1966-67	1.44	70.0	1.32	46.7	1.37	124.8
1965-66	.85	70.2	1.08	48.8	.95	128.0

[a] Source: U.S. Department of Agriculture, Foreign Agricultural Service, *Foreign Agriculture Circular, Grains*, FG 8-84 (Washington, D.C.), May 1984; SG 8-84 (Washington, D.C.), June 12, 1984; FG 23-79 (Washington, D.C.), December 11, 1979; and FG 1-76 (Washington, D.C.), January 21, 1976.
[b] Includes miscellaneous grains.

Future Grain Production Trends

Future trends in Soviet grain area and yields remain uncertain. The record of the 1970s and early 1980s suggests a dramatic improvement in yields should not be expected in the near future. Various explanations for lack of significant improvement in Soviet yields have been offered. Some sources believe a short growing season, high drought risk in much of its grain belt and frost risks on both ends of the growing season are largely responsible. Other explanations center on lack of coordination in the farm, farm supply and product-handling sectors. Where climatic risks are as large as they are in USSR, proper timing and coordination of tillage, fertilization, planting, weed-control, harvesting, transportation and drying of crops become critical elements in determining total output. Numerous sources report problems of inadequate fertilizer supplies, lack of spare parts for farm machinery, and inadequate drying, storage and handling capacity have created coordination and timing problems in crop production. If these problems can be overcome, one would expect Soviet grain yields to trend upward. In addition, new technology—such as improved varieties, increased use of fertilizer, irrigation, drainage of wet lands and related developments—logically should increase Soviet yields some over the next 10 to 15 years. However, performance of the Soviet grain sector since the early 1970s indicates there have been major obstacles in adapting these developments to the Soviet agricultural system. Until these obstacles are overcome, the USSR will likely remain a major grain importer, with sizable year-to-year fluctuations in its total imports.

Oilseed Production Trends

USSR's main oilseed crops are cottonseed and sunflowerseed, with soybeans and other oilseeds accounting for only a minor share of total oilseed output (see Table 18). Like grains, Soviet oilseed production has fluctuated substantially from year to year, with little if any upward trend in output in recent years. Oilseed production in the USSR is much smaller in comparison with U.S. production than is the case with grain. For example, Soviet production of major oilseeds in 1982 totaled 10.9 million metric tons, or the equivalent of 16 percent of U.S. oilseed production. That same year, USSR grain production was equivalent to 53 percent of the U.S. grain crop. Soviet plans call for increased soybean area and production in the years ahead. However, soybeans are sensitive to the length of the day during the growing season and much of the Soviet grain belt lies too far north of the equator for optimum soybean production. This factor and the absence of a strong upward trend in USSR soybean production cast doubts on the country's ability to sharply expand soybean output in the years immediately ahead.

Table 18. Soviet Oilseed Production in Millions of Metric Tons, 1972-73 Through 1983-84.[a]

	Soybeans	Cottonseed	Sunflower
Projected			
1983-84	.59	5.00	5.30
Preliminary			
1982-83	.49	5.09	5.34
1981-82	.45	5.28	4.65
1980-81	.53	5.08	4.62
1979-80	.4	4.14	5.41
1978-79	.63	4.67	5.33
1977-78	.54	4.69	5.90
1976-77	.48	4.51	5.28
1975-76	.78	4.81	4.99
1974-75	.36	4.53	6.78
1973-74	.42	4.36	7.39
1972-73	.26	4.09	5.05

[a] Source: U.S. Department of Agriculture, Foreign Agricultural Service, *Foreign Agriculture Circular, Oilseeds and Products*, FOP 4-84 (Washington, D.C.), April 1984; FOP 2-84 (Washington, D.C.), February 1984; FOP 11-83 (Washington, D.C.), November 1983; FOP 9-83 (Washington, D.C.), September 1983; and FOP 13-82 (Washington, D.C.), November 1982.

Protein meal is an important input for efficient livestock and poultry production. Increased Soviet protein imports in recent years appear to have contributed to increased efficiency in this sector of USSR agriculture, but current protein levels in livestock and poultry rations remain well below western standards. Difficulties in expanding domestic oilseed output and pressures to improve efficiency of the livestock-poultry sector seem likely to generate moderately increased Soviet protein meal and/or soybean imports in the years ahead.

New U.S.-USSR Grain Agreement[3]

In October 1983 a new five-year U.S.-USSR Grain Trade Agreement went into effect. The new agreement commits the United States to exporting a minimum of nine million metric tons annually of combined corn and wheat shipments to the USSR, up from six million tons in the previous agreement. The USSR is obligated to purchase at least this quantity from the United States and has permission to purchase up to a combined total of 12 million tons of the two grains without consultation with the U.S. government. With consultation, additional purchases beyond the 12 million ton limit may be permitted. In the former agreement, purchases exceeding eight million tons required prior consultation with the U.S. government. The current agreement also provides for substitution of 0.5 million metric tons of soybeans or soybean meal for one million tons of grain in meeting the minimum purchase commitment. This option is to be exercised at the discretion of the USSR government.

The new long-term agreement provides assurance that the USSR will remain a large importer of U.S. wheat and corn through at least the October 1987-September 1988 marketing year. Total purchases will likely continue to fluctuate from year to year, depending on Soviet crop conditions, availability of foreign exchange in the USSR and the international political environment. Since the mid-1970s, both sides have honored the minimum purchase-sales commitments provided in the former grain agreement, and it seems likely that minimum commitments in the current agreement will continue to be honored.

Chinese Grain Developments: Record 1983 Production

China's grain production has increased sharply since the mid-1970s. According to U.S. Department of Agriculture estimates, combined wheat, coarse grain and rice production in 1983 set an all-time record of 343 million metric tons, making China the world's first-ranking grain producer.[4] Production at that level was up 9 percent from the previous year and was 23 percent above 1980. Favorable weather was a factor behind the exceptionally large 1983 crops, but improvements in production practices, including increased use of fertilizer and higher-yielding varieties, also appear to have been important. Table 19 indicates the upward trend in production has been most pronounced in wheat (up 160 percent since 1970 and up 47 percent since 1980), with considerably smaller growth rates for rice (up 45 percent since 1970 and up 21 percent since 1980) and coarse grain production (up 61 percent since 1970 and up 10 percent since 1980). China's cropland area devoted to coarse grains has trended slightly downward in recent years, with 1983-84 harvested area dropping 11 percent below six years earlier. Its wheat and rice area, however, has remained almost constant in the last few years.[5]

Increased grain production permitted the world's most populous nation to meet the food needs of its growing population with approximately one-third lower grain imports in the 1983-84 trade year than in the previous season. While China remains a large net importer of grain, its import requirements this past season were only about one-third as large as those of its Soviet neighbor. Declining import requirements combined with U.S.-Chinese political problems stemming partly from a textile trade dispute led China to import less U.S. grain in 1983 than required in its grain agreement with the United States. The agreement calls for minimum annual combined Chinese purchases of U.S. wheat and corn at six million metric tons. Actual Chinese purchases of U.S. grain, however, totaled only 4.98 million tons.[6] Chinese officials reportedly have indicated plans to make up this short-fall in purchases in calendar year 1984.[7] Table 20 shows Chinese grain imports by source for the past decade. The U.S. share of its imports has fluctuated widely from year to year, depending on political relationships and other factors. Chinese imports of U.S. soybeans and soybean oil for recent years are shown in Table 21.

Table 19. Chinese Grain Production in Millions of Metric Tons, 1970-71 Through 1983-84.[a]

	Wheat	Coarse Grains	Rice	Total Grain Products
Projected				
1984-85	80.0	95.0	[b]	[b]
Preliminary				
1983-84	81.4	93.0	168.9	343.3
1982-83	68.4	86.0	161.2	315.6
1981-82	59.6	80.8	144.0	284.4
1980-81	55.2	84.2	139.9	279.3
1979-80	62.7	83.1	143.8	289.6
1978-79	53.8	79.1	136.9	269.8
1977-78	41.1	70.7	128.6	240.4
1976-77	50.4	70.5	125.8	246.7
1975-76	45.3	68.9	125.6	239.8
1974-75	38.0	66.0	126.5	230.5
1973-74	34.4	57.1	127.5	219.0
1972-73	35.9	53.3	119.2	208.4
1971-72	30.7	58.7	114.4	203.8
1970-71	31.3	57.6	116.4	205.3

[a] Source: U.S. Department of Agriculture, Foreign Agricultural Service, *Foreign Agriculture Circular, Grains*, FG 9-84 (Washington, D.C.), June 1984, and various other issues.
[b] Data not available.

Table 20. Sources of Chinese Grain Imports, July-June Trade Years, 1972-73 Through 1983-84 in Millions of Metric Tons.[a]

Source	1972-73	1973-74	1974-75	1975-76	1976-77	1977-78	1978-79	1979-80	1980-81	1981-82	Prelim. 1982-83	Proj. 1983-84
Canada	4.4	1.4	2.4	1.2	1.9	3.3	3.2	2.6	[b]	[b]	4.2	3.6
Australia	0.3	1.2	1.5	1.0	0.8	4.6	1.4	3.7	1.2	2.0	0.6	1.3
Argentina	0.1	0.2	0.7	0	0.5	0.5	1.1	0.5	[b]	[b]	2.3	1.0
E.C.	0	0	0.2	0	0	0	0	0.1	0.4	0.1	1.5	.4
Thailand	0	0	0	0	0	0	0.1	0.1	[b]	[b]	0	0
U.S.	1.5	5.0	1.5	0	0	0.3	5.4	4.0	8.9	9.3	6.9	3.0
Total	6.2	7.9	6.2	2.2	3.2	8.7	11.1	10.9	14.6	14.5	15.5	10.5
U.S. As % of Total	24	63	24	0	0	3	49	37	61	64	49	29
Canada as % of Total	71	18	39	55	59	38	29	24	[b]	[b]	27	34

[a] Sources: U.S. Department of Agriculture, Foreign Agricultural Service, *Foreign Agriculture Circular, Grains*, FG 5-81 (Washington, D.C.), January 28, 1981; FG 6-83 (Washington, D.C.), February 25, 1983; FG 7-84 (Washington, D.C.), April 1984; *U.S. Export Sales* (Washington, D.C.), May 26, 1983; Reuter News Wire, "China Grain Imports Seen Higher," (London, England), March 28, 1983; "Canada, China Sign Three-Year Wheat Pact" (London, England), May 5, 1983; American Quotations Systems Wire (Kansas City, Missouri), April 12, 1983; and Carolyn Whitton, "China Market: Import Growth Slowing," U.S. Department of Agriculture, Economic Research Service, *Agricultural Outlook* (Washington, D.C.), April 1983, pp. 22-23 and personal communication with officials of U.S. Department of Agriculture, Foreign Agricultural Service.
[b] Data not available.

Table 21. Chinese Purchases of U.S. Soybeans and Soybean Oil As Percentages of Total U.S. Exports 1977-78 Through 1982-83 Fiscal Years.[a]

Year	U.S. Soybeans	Soybean Exports	Chinese Soybean Oil Purchases, % of U.S. Total Exports
1982-83	0	0	0
1981-82	13.5	1.5	0
1980-81	18.2	2.5	3.5
1979-80	31.4	3.6	8.2
1978-79	6.3	0.9	5.6
1977-78	3.2	0.5	11.4

[a] Source: U.S. Department of Agriculture, Economic Research Service, *Foreign Agricultural Trade of the United States* (Washington, D.C.), November-December 1983 and various other issues.

Future Chinese Import Trends

China's progress in expanding grain production during the past decade has been impressive. Based on recent successes, sharply expanded fertilizer production capacity and longer-range agricultural plans, further increases in Chinese grain production may well occur in the years ahead. However, for the next year or two, unusually favorable weather would be required for China to match or exceed the record 1983 production. Also, China's population is continuing to expand at a relatively rapid rate, thus increasing its annual grain consumption requirements by around 2 percent per year. With this combination, it would not be surprising to see some increase in Chinese grain imports in the short run, with imports possibly tending to stabilize later this decade.

Financial Restraints on U.S. and World Agricultural Trade

While the world economy is showing some signs of improvement in the 1983-84 trade year, serious financial problems continue to restrain the growth of agricultural exports. Indications of a stronger tone in global economic activity stem mainly from growth of industrial production and the gross national product (GNP) in the United States, Canada, Japan, other Pacific rim countries and parts of Western Europe. At mid-year, the United States and Canada were leading the world economic recovery with an expected 5 percent rise in GNP of each nation in calendar year 1984.[8] Economic growth in North America is expected to generate a modest increase in economic activity of other industrial countries in late 1984 and at least the early part of 1985. Increased U.S. and Canadian demand for products of other nations will be an important factor behind the expected economic growth outside North America.

Interrelated Problems

Current problems in the world economy center around three areas: (1) heavy indebtedness of many developing nations and resulting large foreign exchange needs for debt servicing, (2) a strong U.S. dollar through late spring 1984 that had increased foreign buyers' costs of purchasing petroleum and U.S. farm products, and (3) high interest costs—which add to production, processing, storage and marketing costs and increase financial requirements for debt servicing. These areas are closely interrelated. High U.S. interest rates stemming partly from large federal budget deficits have tended to support the dollar by attracting capital flows into the United States. Other nations in some cases have been forced to adopt defensive monetary policies and resulting higher interest rates than otherwise would have occurred—to retard capital outflows. Upward pressure on petroleum costs to non-U.S. buyers had its origin in the fact that petroleum is priced in U.S. dollars. Rising petroleum and interest costs absorbed funds that might otherwise have been used to some extent for agricultural product purchases, thus exerting restrictive influence on global farm product trade. These same cost factors, by retarding growth of economic activity abroad, have tended to hold down the foreign demand for U.S. agricultural exports.

The interrelated problems of global debt and high interest rates by May 1984, caused some uneasiness about the health of multi-national banks, which have been heavily involved in loans to developing nations. Such concerns can cause a drying up of new commercial credit for developing nations and, in some instances, that pattern was emerging by mid-1984.[9]

Debt Burdens

Table 22 shows recent estimates of indebtedness for a few selected countries in 1983. Several of these nations including Nigeria, Mexico, Venezuela and Indonesia are oil exporters but nevertheless are experiencing considerable financial pressure.[10] And in an extreme case, Bolivia on June 1, 1984, announced it was at least temporarily suspending payments on its foreign debt. Complete and permanent suspension of foreign debt payments could have potentially severe impacts on lending institutions, borrower nations, world trade and global economic activity. For the borrowing country, new credit to meet day-to-day economic activity could become extremely difficult if not almost impossible to obtain. Lending institutions, faced with the problem of covering financial losses from such loans, would likely be forced to raise operating margins, which could place upward pressure on interest rates to more credit-worthy borrowers. These same institutions would become extremely cautious in making new loans both to government and private borrowers and availability of credit would tend to be reduced, thus retarding global economic activity. U.S. agriculture clearly has an important stake in resolution of these problems because expanding agricultural trade depends heavily on world economic growth.

Table 22. Estimated Outstanding Debt of Selected Nations in Billions of U.S. Dollars in 1983.[a]

	Total External Debt
Brazil	$96.2
Mexico[b]	92.7
Argentina	43.5
Venezuela[b]	31.4
S. Korea	35.0[c]
Poland	26.3
Indonesia[b]	21.9[c]
Philippines	28.0
Nigeria[b]	10.0[c]
USSR[b]	28.7
Iran[b]	7.2
Iraq[b]	5.3
Israel	14.6

[a] Sources: *Wall Street Journal* (Chicago, Ill.), various issues and *Journal of Commerce* (New York), various issues.

[b] Oil exporting nations.

[c] 1982 debt levels.

Heavy indebtedness of nations is only part of the current global debt problem. Numerous private firms face similar situations with a resulting drain on operating capital by large debt-servicing costs. The debt problem stems from the inflationary world economy of the 1970s. During that period, removal of fixed exchange rates in international currency markets allowed countries greater flexibility to pursue individual monetary policies. If inflation accelerated in a particular country, it was compensated considerably by changing exchange rates. Rapidly rising energy costs added to inflationary pressures and, in some cases, were partially compensated for by expansionary monetary policies and a resulting decline in currency values. Through much of the 1970s, these processes occurred with very low or negative real interest rates (nominal rate of interest minus inflation rate) that encouraged the build-up of extreme debt loads. Inflationary expectations also encouraged the rapid expansion of debt, because borrowers anticipated repaying debts with lower valued dollars or other major currencies at a later time.

In this process, wealth transferred from those with fixed incomes, as well as savers and lenders, to borrowers. In the early 1980s, monetary policy in major industrial nations shifted abruptly toward control of inflation and toward slowing this transfer of wealth. Inflation rates slowed dramatically and real interest rates were highly variable, positive and often at record levels. The shift to inflation-control policies thus has brought with it substantial and sometimes severe adjustment problems for heavily indebted nations, firms and individuals. Resolution of these problems appears likely to require several more years of adjustment, as borrowers and lenders work together to restructure debt and lengthen repayment periods. Other tools for dealing with these situations include improving productivity of the economies involved, reduction of new private and government borrowing, restraining imports of non-essential items and encouraging exports. While these adjustment problems are not insurmountable, they remain serious and likely will continue to be a major restraint on global trade in agricultural products during the next two to four years. However, gradually accelerating world economic growth should bring at least a slight upward trend in trade during this adjustment period, with a somewhat accelerated growth rate likely in the latter part of this decade.

Currency Exchange Rates

Table 23 shows the impact of a strong U.S. dollar through mid-1984 on foreign buyers' costs of purchasing U.S. corn and soybeans. For example, second quarter 1984 Chicago cash corn prices were approximately the same level as in the first quarter of 1981. However, the Chicago price during the second quarter of 1984, when converted to Japanese yen, was 12 percent above the early 1981 period. Comparable increases for other nations included 21 percent for South Korea, 12 percent for Taiwan and 665 percent for Mexico. In short, the strong dollar has placed upward pressure on foreign buyers' costs of purchasing U.S. farm products.

As noted in the European Community section of this report, the EC has a complex policy that largely insulates its domestic grain users from fluctuations in the dollar's exchange rate. However, its soybean users, as well as those in nearly all other foreign markets, are directly affected by changes in the value of the U.S. dollar relative to other currencies. As an indication of exchange rate impacts on foreign users of U.S. soybeans, the Chicago price of soybeans in the second quarter of 1984 when converted to the Dutch guilder was 35 percent above the first quarter of 1981. Comparable increases for other currencies included 85 percent for the Spanish peseta, 62 percent for the U.K. pound, 30 percent for the West German mark and 10 percent for the Japanese yen. Chicago soybean prices in U.S. dollars in the second quarter of 1984 were about 1 percent below the first quarter of 1981.

The USSR, which is a major and highly variable importer of grain and protein meal, has a currency not readily convertible to U.S. dollars or other widely-accepted hard currencies. Its availability of foreign exchange for imports of farm products depends more on the price of gold than on the dollar's exchange rate, because USSR is a net exporter of gold, which it uses to pay for imports of other products. Over the longer run, gold prices and the U.S. dollar's exchange rate in foreign currency markets tend to vary inversely. In periods of rapid U.S. inflation and a depreciating U.S. dollar, investors often look to gold as a hedge against inflation. Increased demand for gold in such times tends to strengthen its price in dollars. In periods of low U.S. inflation and high interest rates, financial traders are discouraged from investing in gold and its price tends to decline. Thus, Soviet purchasing power indirectly tends to be related to the value of the U.S. dollar.

Strength of the dollar during the early 1980s has resulted from a complex set of domestic and international policy developments.[11] Important factors include U.S. monetary and fiscal policies leading to high real interest rates during the 1979-84 period and the importance foreign investors place on political stability and safety of investments in the United States. In a very real sense, strength of the dollar in the early 1980s canceled out much and, in some cases, all of the trade advantage that U.S. agriculture obtained from a depreciating dollar during the previous decade. Thus, exchange rates are a major factor behind the recent decline in U.S. agricultural exports.

Future trends in the value of the U.S. dollar relative to other foreign currencies will depend heavily on what fiscal and monetary policies the U.S. pursues during the six to nine months following the nation's November 1984 elections. This period appears likely to be one of the most opportune times in the near future to bring about any significant change in U.S. economic policies.

Table 23. Chicago Cash Corn and Soybean Prices in U.S. Dollars and Foreign Currency Equivalents 1977 and 1980-84.[a]

		Foreign Prices[d]						Foreign Prices[d]						
Year	Quarter[b]	Chicago Cash Corn[c]	Brazil (Cruzeiro)	Japan (Yen)	Mexico (Peso)	Rep. Korea (Won)	Taiwan (Dollar)	Chicago Cash Soybean	Italy (Lira)	Japan (Yen)	Netherlands (Guilder)	Spain (Peseta)	U.K. (Pound)	W. German (Mark)
1984	II	3.69	4824.7	829.0	647.6	2921.0	147.4	7.89	12754.0	1772.5	23.1	1171.7	5.5	20.5
	I	3.25	3147.6	755.1	549.3	2592.2	130.9	7.90	13224.6	1835.6	24.5	1251.4	5.5	21.8
1983	IV	3.49	2509.3	826.3	547.9	2756.4	140.1	8.46	13536.0	2002.9	25.0	1285.9	5.6	22.3
	III	3.25	1764.7	776.8	484.6	2492.8	129.9	6.16	9270.8	1472.2	17.5	894.7	4.0	15.6
	II	3.22	1341.1	768.9	492.7	2457.5	129.1	6.40	9222.4	1528.8	17.5	873.6	4.3	13.7
	I	2.46	610.6	565.8	[e]	1833.2	99.8	5.67	7756.6	1304.1	14.8	712.4	3.5	13.4
1982	IV	2.06	415.7	553.5	[e]	1529.9	81.5	5.19	7369.8	1394.6	14.3	591.4	3.1	13.1
	III	2.67	452.6	680.3	128.4	1977.1	104.0	6.18	8571.7	1574.7	16.8	689.4	3.6	15.2
	II	2.63	388.9	646.2	119.9	1862.0	97.3	6.37	8402.0	1565.1	17.0	681.5	3.6	15.3
	I	2.54	311.4	556.0	66.7	1753.6	96.3	6.12	7307.3	1339.7	15.1	590.5	3.2	13.7
1981	IV	2.53	258.5	589.9	63.8	1733.1	96.1	6.21	7346.3	1447.9	16.1	597.5	3.3	14.4
	III	3.32	302.0	756.5	81.2	2267.9	121.1	6.91	8271.3	1574.4	18.5	666.0	3.7	16.7
	II	3.50	266.5	744.1	83.2	2340.5	125.4	7.60	7957.2	1615.8	17.7	646.0	3.4	16.0
	I	3.66	233.8	740.8	84.7	2419.3	131.2	7.98	7461.3	1615.2	17.1	632.8	3.4	15.8
1980	IV	3.37	187.0	701.1	77.6	2006.0	121.3	7.73	6647.8	1608.2	15.2	566.2	3.2	14.0
	III	2.81	144.6	616.8	64.2	1653.0	101.2	6.57	5525.4	1442.1	12.7	459.9	2.8	11.6
	II	2.55	118.8	651.3	58.1	1168.8	91.4	5.64	5132.4	1440.5	12.0	414.0	2.6	11.1
	I	2.63	111.3	625.4	59.9	1249.3	93.9	6.17	4938.5	1467.2	11.7	407.8	2.8	10.5
1977	IV	1.84	27.5	479.3	41.7	876.2	69.4	5.11	4502.2	1331.1	12.5	431.2	2.9	11.7
	III	2.14	30.6	571.3	49.4	1019.0	80.8	6.95	6145.0	1855.3	17.2	484.3	4.0	16.3
	II	2.52	32.5	693.3	56.8	1200.0	95.1	9.08	8056.8	2497.9	22.6	621.9	5.3	21.7
	I	2.51	30.8	733.9	48.9	1195.2	94.7	6.94	6061.1	2029.3	16.9	473.4	4.1	16.3

[a] Sources: *Statistical Annual Chicago Board of Trade* (Chicago: Chicago Board of Trade), various issues; United States Department of Agriculture, Agricultural Marketing Service, *Grain and Feed Market News* (Independence, Mo.), various issues; and *Wall Street Journal* (Chicago, Ill.), various isses.

[b] All prices were quoted as of the first trading day of the quarter.

[c] Hopper car corn bids.

[d] Does not include transportation or transaction costs.

[e] Mexican pesos were not traded at these times due to the peso crisis.

Up-date on U.S. Payment-In-Kind Program

In 1983, U.S. producers of feed grains, food grains and cotton were offered an unusual government program to halt the upward trend of carryover stocks and to remove downward pressure on prices for these commodities. The Payment-In-Kind Program reflected the most dramatic shift in U.S. farm policy in more than two decades. The main thrust of the program paid producers a substantial part of their normal production in actual physical commodities in return for a firm commitment to idle part or all of their farm's cropland base for one year. The program was highly attractive to most farmers and generated heavy participation nation-wide.

Major objectives of the program were to (1) reduce U.S. carryover stocks of surplus commodities and (2) increase U.S. farm prices significantly. In the case of feed grains, the program and an accompanying severe drought have reduced U.S. carryover stocks to normal minimum working needs of the U.S. grain and feed industries. Ending 1983-84 U.S. stocks have dropped extremely sharply from October 1, 1983, old-crop carryover levels, which were equivalent to almost half of normal annual U.S. domestic utilization and exports. As a result of sharply lower carryover stocks, U.S. corn prices paid to farmers in the spring of 1984 were 34 percent higher than two years earlier and 13 percent higher than in the spring of 1983 when market anticipation of program impacts had already begun to strengthen prices. Because the program's objectives were accomplished in the feed grain sector, the Payment-In-Kind Program was not offered to U.S. feed grain producers in 1984. In its place, a voluntary 10 percent acreage idling program was offered. Participating producers were given eligibility for government price support protection ($2.55 per bushel price support loan and $3.03 per bushel target price) in return for idling the required percentage of their farm's feed grain base.

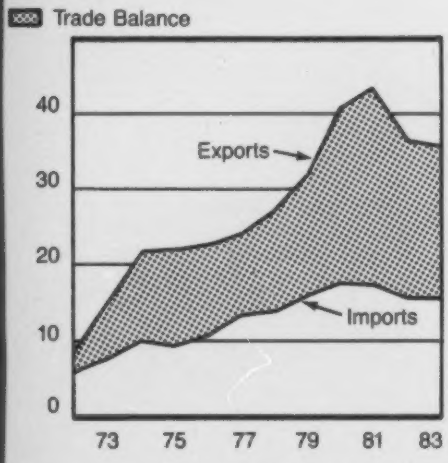
In wheat, the Payment-In-Kind Program was much less successful. The U.S. wheat crop was largely mature before the severe drought struck the nation's mid-section. In addition, the program was not offered to farmers until after they had planted the winter wheat crop. As a result, producers idled areas suffering from winter-kill or other problems and harvested wheat that had good yield prospects. The U.S. harvested wheat yield per acre set an all-time record in 1983; production remained large; U.S. carryover stocks declined only slightly, and, for much of the year, U.S. wheat prices paid to farmers remained below the government price support loan rate. With continuing large carryover stocks, the Payment-In-Kind Program was offered to wheat growers again for 1984-crop wheat to be harvested in the summer of 1984. However, early indications point toward continued large U.S. wheat carryover stocks despite substantial farmer participation in the 1984 program.

While the feed grain program reached its objectives, trade impacts from the wheat Payment-In-Kind Program have been somewhat negative for U.S. wheat producers. The decline in U.S. wheat area harvested in 1983 was partially offset by increased plantings in Canada, Australia and some other nations and by continued large foreign wheat production. With the United States attempting to unilaterally reduce surplus world wheat supplies, the U.S. share of world wheat exports dropped modestly in 1983-84. Thus, from the U.S. standpoint, some mechanism that would also encourage foreign producers to perform part of the needed supply-control task would be desirable.

U.S. Agricultural Trade Balance Continues Decline

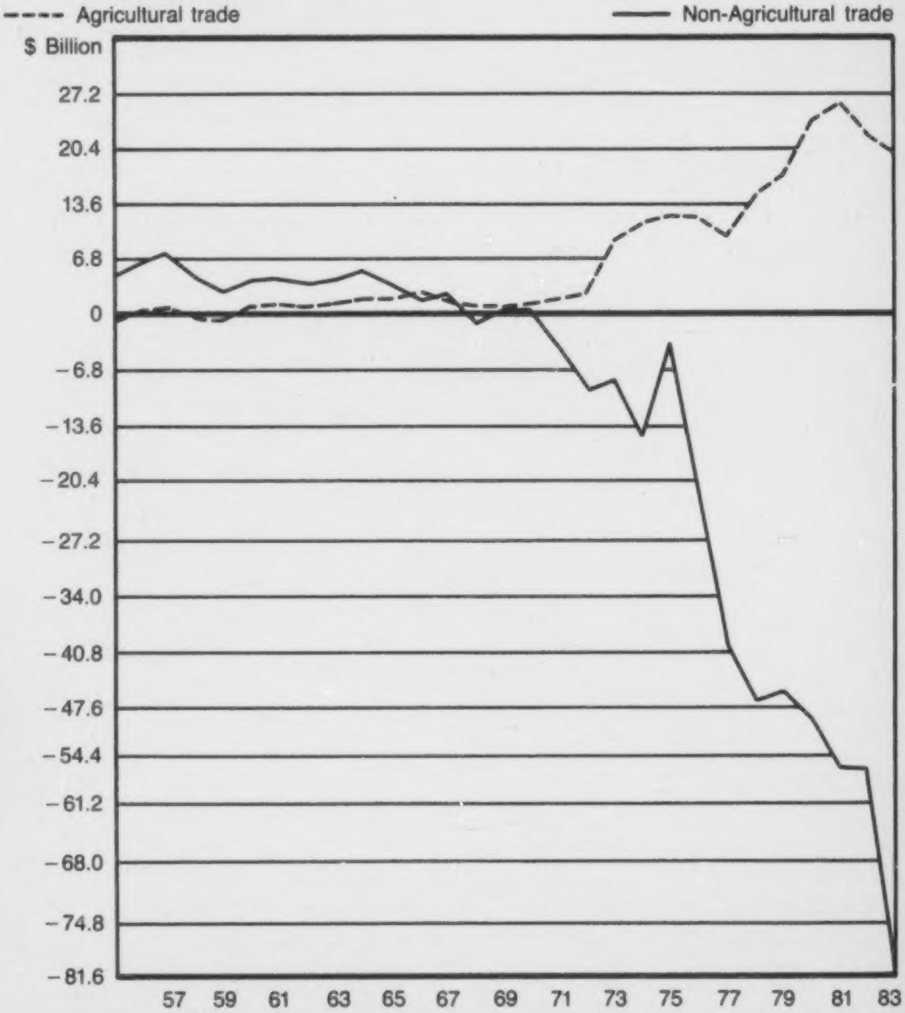
The calendar year 1983 reflected a third consecutive year of declining U.S. agricultural exports, as shown in Figure 28. At the same time, the dollar value of U.S. agricultural imports rose modestly, thus generating a third consecutive year of declines in the net U.S. trade balance in agricultural products. Even with the downward trend, farm product exports continued to be vitally important to the nation's economy, consumers, producers of farm products and those employed in farm supply, processing, transportation and marketing sectors. Net agricultural exports of $19.5 billion, while down from the previous year's $21.2 billion surplus, still helped the nation pay for a net trade deficit in non-farm products totaling a record $80.3 billion. Without this agricultural trade surplus, the U.S. dollar likely would have had less purchasing power relative to major foreign currencies and would have raised the cost of imported items to U.S. consumers. Agricultural exports also continue to be important from the standpoint of farm income, employment in agriculturally related industries and their effects on demand for non-farm goods and services in rural communities. While agricultural exports still are vitally important to the nation's economy, the downward trend since 1981 is reason for serious concern. Early indications point to a possible small increase in the value of U.S. farm product exports in 1984 because of higher average prices for major commodities. But the total physical volume of exports is expected to remain well below the peak level three years earlier. Primary factors behind the recent weakness in agricultural trade, as noted previously, are (1) serious debt-servicing problems in a number of countries and private firms, (2) the strong U.S. dollar which partly reflects U.S. monetary and fiscal policies and (3) relatively sluggish global economic growth rates in recent years. World economic growth appears to be accelerating modestly in 1984 and may contribute to a slight upward trend in U.S. agricultural exports in the next one to three years. However, several years of adjustment appear to be needed before Eastern Europe, Latin America and other developing nations fully recover from current debt burdens. Even in oil-exporting nations, these same forces have sharply reduced the availability of funds for farm product imports and appear likely to temper demand growth in the next few years. Future trends in the value of the U.S. dollar will depend heavily on U.S. fiscal and monetary policies and their resulting impact on U.S. real interest rates. At this writing, expectations of a substantial immediate change in policies and trends of the last few years would seem somewhat unrealistic.

Figure 28. Dollar Value of U.S. Agricultural Exports and Imports, 1972-1983.



Source: U.S. Department of Agriculture, Economic Research Service, *Foreign Agricultural Trade of the United States* (Washington D.C.), January-February 1984 and various other issues.

Figure 29. Net U.S. Trade Balance in Agricultural and Non-Agricultural Products by Calendar Years, 1955 through 1983.



Source: U.S. Department of Agriculture, Economic Research Service, *Foreign Agricultural Trade of the United States* (Washington, D.C.), January-February 1984 and various other issues.

U.S. Government-assisted Export Programs Receive Increased Emphasis

The U.S. government has been involved, in a very limited way, in concessional and government export programs until recently. Since 1982-83, however, financial support for such programs has been sharply increased to meet greater competition in world markets and in an effort to reverse the downward trend of U.S. farm product exports. Early indications are that U.S. financial commitments for these programs will remain substantial for the next few years.

U.S. food export assistance programs had their beginnings in the 1920s, although most programs until very recently were based on the Agricultural Development and Assistance Act of 1954 (Public Law 480). This legislation was intended to (1) assist in disposing of surplus U.S. food supplies, (2) help countries with insufficient foreign exchange to purchase U.S. agricultural products and (3) facilitate U.S. foreign aid efforts. In the last one and one-half decades, increased emphasis in these programs was placed on the development of foreign commercial markets for U.S. farm products and a reduction of world hunger. Since the late 1960s, Western Europe and Japan also have initiated and expanded similar programs.[12]

Types of Assistance Programs

There are three main types of U.S. concessional Export Programs: PL-480 Title I and Title II and AID programs. In recent years, the PL-480 Title I Program has provided long-term low-interest credit with repayment terms up to 40 years and a grace period of up to 10 years. Repayments are to be made in U.S. dollars or other currencies readily convertible into dollars.[13] U.S. laws require three-fourths of all food exports under Title I to be sent to countries with a per capita Gross National Product (GNP) of $730 or less per year. Prior to fiscal year 1982, the GNP requirement had been $680 per year.[14] Title II of the PL-480 Program involves food donations for export; about two-thirds of these exports normally are shipped by voluntary relief agencies. In fiscal 1982, Title II shipments were supplemented by an additional 27 percent contributed from the World Food Program and 9 percent from government-to-government export programs. India has been a major recipient of Title II agricultural exports and accounted for over 22 percent of such shipments in fiscal year 1982.[15]

The AID (Agency for International Development) program was initiated in 1979 to provide financial grants and loans for agricultural commodity purchases. Since its inception, strong emphasis for such financing was first given to Israel, and more recently has been extended to Egypt and Sudan.[16] Table 24 and Appendix IV, Table 1 show the distribution of U.S. farm product exports under concessional programs by commodities during the past seven years. These programs have been heavily oriented toward soybean oil, wheat and flour and non-fat dry milk.

U.S. Government Loan Guarantees and Blended Credit[17]

In the last four fiscal years, U.S. government loan guarantees and other non-PL-480 export assistance programs have been given sharply increased emphasis through joint actions of the U.S. administration and the U.S. Congress. A major part of this program involves Commodity Credit Corporation (CCC) loan guarantees (GSM-101 and 102 funds) to aid exporting firms in making sales to foreign buyers who find it difficult to obtain commercial credit. With this program, private lending institutions provide short-term or intermediate-term credit for purchases of U.S. farm products. CCC, a U.S. government agency, guarantees repayment of such loans and a sizable part of the interest. U.S. Department of Agriculture sources indicate the repayment rate on CCC-guaranteed loans generally has been good. One exception, however, is Poland. CCC has made some payments on loans to that nation in the past three years because of its severe financial problems. With continuing debt burdens in many other developing nations, some analysts express concern that future repayment rates under the CCC credit-guarantee program may be less favorable than in the past. Mexico, because of a 1982-83 financial crisis, received over $1 billion in CCC credit guarantees during the 1982-83 fiscal year and is receiving sizable credit guarantees again in 1983-84. Mexico has used this financial assistance to purchase U.S. corn, grain sorghum, wheat, soybeans and other farm products.

In addition, the U.S. government developed a "Blended Credit Program" in 1982-83 to further encourage American farm product exports. The program involves a blend of interest-free government loans (GSM-5 program) and CCC Credit Guarantees (GSM-102 funds) that normally cover up to 98 percent of the principal and up to 8 percentage points of interest. Major emphasis in these programs has been given to wheat, flour and soybean oil. Considerable effort has been made to ensure that blended-credit sales are beyond levels that recipient countries would have purchased without the program. The Blended Credit Program has been offered as a tool for increasing the U.S. share of world food trade and for meeting subsidized competition from other exporters, particularly the European Community. However, these objectives will be fully achieved only if other exporters fail to respond with their own expanded export incentive programs and choose to reduce production or store their surplus agricultural production.

Table 24. U.S. Concessional Government Agricultural Exports as Percent of Total Exports by Major Commodities, Fiscal Years 1977 Through 1983.[a]

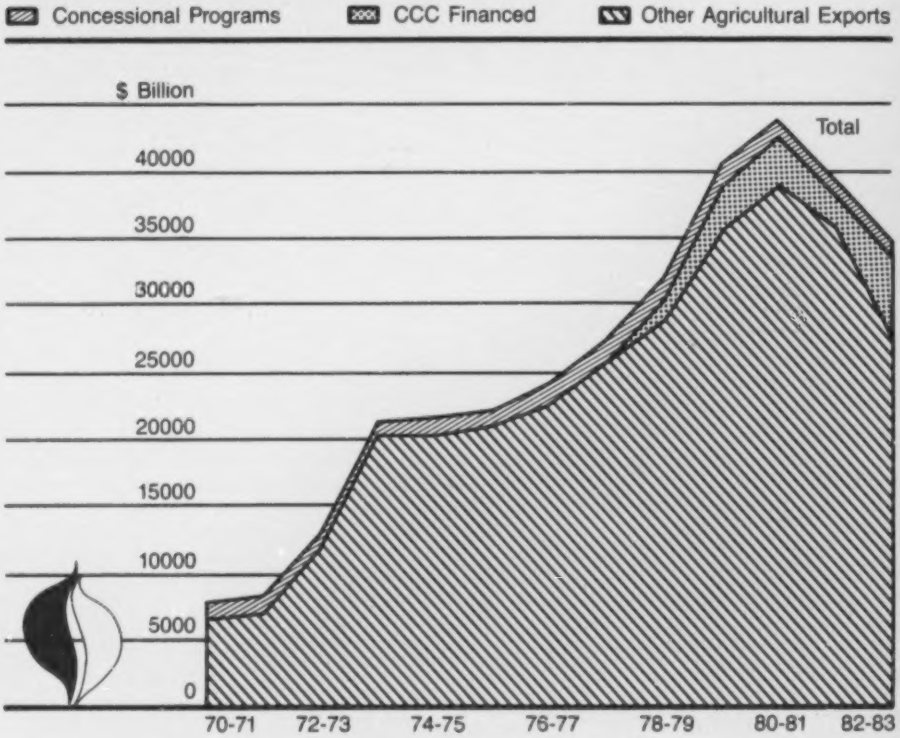
Commodity Products	1977	1978	1979	1980	1981	1982	1983
Wheat and FLour	17.5	14.8	13.0	9.6	7.6	7.4	10.6
Corn	2.5	3.7	3.7	1.9	2.0	1.4	.3
Soybean Oil	22.0	29.1	17.3	22.0	38.8	27.7	29.3
Cotton (exc. Linters)	1.2	.6	1.0	.4	.4	.4	.6
Milk, non-fat dry	99.8	43.2	83.4	53.4	88.4	27.3	8.7
Others	4.2	3.6	2.6	2.4	2.0	1.2	0.8

[a] Source: U.S. Department of Agriculture, Economic Research Service, *Foreign Agricultural Trade of the United States* (Washington, D.C.), January-February 1984; and various other issues.

Figure 30 shows the changing relative importance of government-assisted export programs and their role in total exports of all U.S. farm products. Until fiscal year 1983, these programs accounted for less than one-tenth of all U.S. farm product exports. However, preliminary estimates indicate nearly one-fifth of all U.S. farm product exports in 1982-83 were sold with U.S. government financing or CCC Credit guarantees. Despite sharply increased government export financing assistance, the U.S. share of global trade in several farm commodities continued to decline that year.

Figure 31 shows the composition of CCC Credit-Guarantee Programs and Blended-Credit Exports by major destinations and products in fiscal 1982-83. Appendix IV, Table 2 shows the annual funding since 1979 by types of programs. Mexico was the largest recipient of regular CCC credit guarantees and was followed by non-EC Western Europe, South Korea, Middle East oil-exporting nations and Eastern Europe, in declining order of importance. Major recipients of blended credit in order of importance included North Africa, Asia, the Middle East and Latin America. As shown in Figure 31, these two government programs encompassed a variety of farm products, with heaviest emphasis being given to wheat and feed grains.

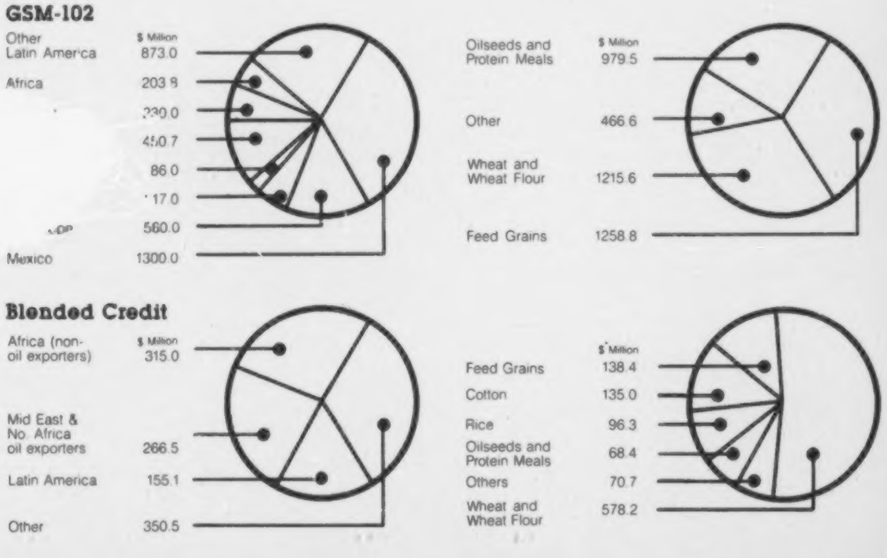
Figure 30. Dollar Value of U.S. Agricultural Exports Under Government Assisted Programs and Other Sales, 1970-1983 Fiscal Years.



Source: U.S. Department of Agriculture, Economic Research Service, *Foreign Agricultural Trade of the United States* (Washington, D.C.), January-February 1984 and various other issues; U.S. Department of Agriculture, Foreign Agricultural Service, *Summary of Exports (GSM-101, GSM-102, GSM-201, GSM-301)*, unpublished material (Washington, D.C.), December 1982; and *Notice to Exporters: Status on GSM-102 and Blended Credit*, unpublished material (Washington, D.C), September 1983.

Figure 31. Distribution of Commodity Credit Corporation Export Credit Guarantees and Blended Credit Export Programs by Destinations and Products, Fiscal Year 1982-8

Sources: U.S. Department of Agricultural Service, *Summary* *(GSM-101; GSM-102; GSM-201;* unpublished material (Washington, D.C, December 1982; and *Notice to Exporters* *on GSM-102 and Blended Credit*, unpublished material (Washington, D.C.), September 1983.



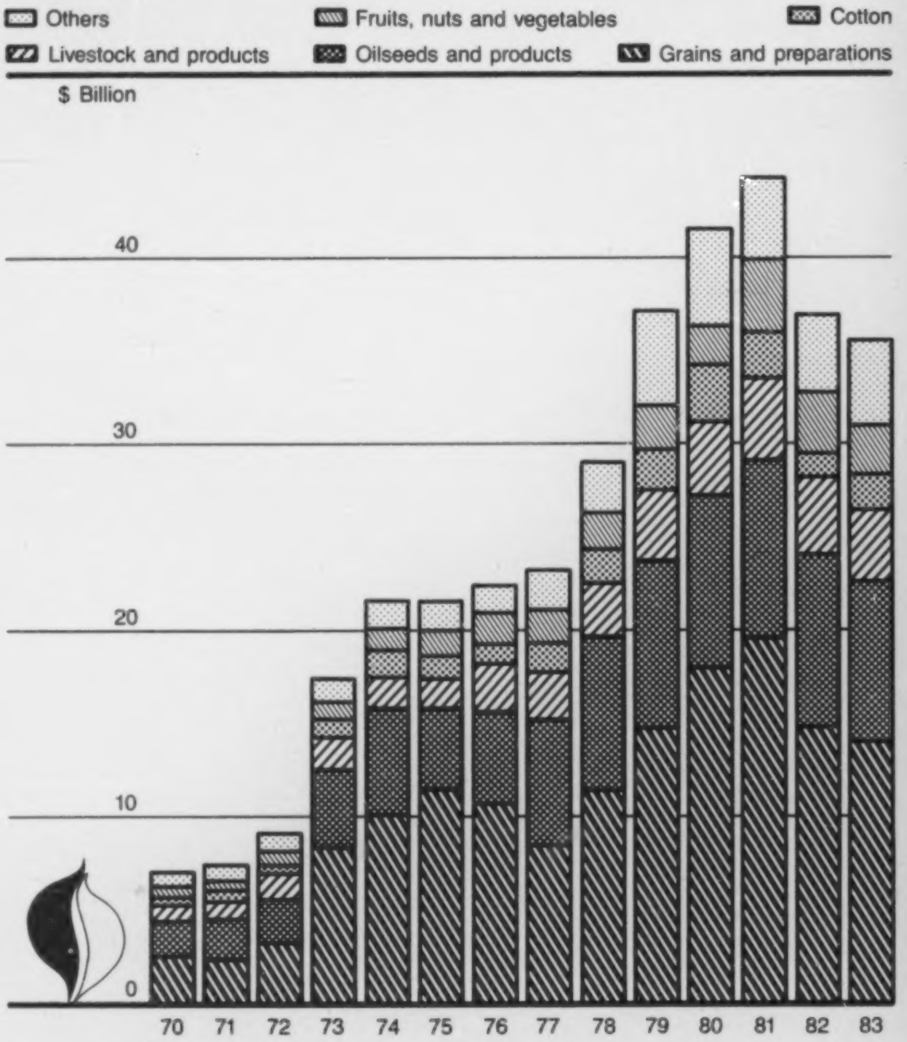
Trade Trends by Commodity Groups

During the 1970s, as shown in Figure 32 and Table 25, major growth in U.S. agricultural exports was led by grains, feeds and oilseeds. Likewise, the decline in exports in 1982 and 1983 was led by these same commodity groups. During the five-year period ending September 30, 1982, exports of these products grew in value by 70 percent. Preliminary estimates, however, show a 6 percent decline in their value from September 30, 1982, to September 30, 1984. These product groups currently account for about two-thirds of all U.S. agricultural exports. Exports of livestock and poultry also have declined moderately in the past two years while exports of fruits, nuts and tobacco have held relatively constant in dollar value. Livestock and poultry exports make up slightly over 10 percent of all U.S. farm product exports along with about 9 percent from cotton and tobacco and 8 percent from fruits, vegetables and seeds.

U.S. Agricultural Imports

In previous issues of this report, we have noted that trade requires a two-way exchange between nations. If the United States is to export products and services to other countries, it must also be willing to import from those countries in order to maintain a lasting trade relationship. In other words, products we buy from other nations generate earnings that those countries can use to purchase U.S. exports. In this process, trading partners usually produce for export those products for which they have a comparative advantage in production (can be produced more efficiently at home than other products which might be imported). Those same trading partners tend to import products that can be produced more economically by their trading partners. Through this process, both partners can increase their standards of living over levels that would otherwise exist.[18] Through this principle of comparative advantage, the U.S. imports sizable quantities of some agricultural commodities.

Figure 32. Value of U.S. Agricultural Exports by Commodity, 1970-83 Calendar Years.



Source: U.S. Department of Agriculture, Economic Research Service, *Foreign Agricultural Trade of the United States* (Washington, D.C.), January-February 1984 and various other issues.

Table 25. Composition of U.S. Agricultural Exports by Type of Commodity, 1976-77, 1980-81, 1981-82 and 1982-83 in Billions of Dollars.[a]

Commodity Group	October-September Fiscal Years 1976-77	1980-81	1981-82	1982-83	Percentage of 1981-82 Total Exports
Feed grains	5.39	10.40	6.96	6.50	18.7
Oilseeds	4.64	6.98	7.34	6.64	19.1
Oilseed meal	0.97	1.67	1.50	1.49	4.3
Vegetable oils	0.77	1.10	.99	.90	2.6
Wheat and wheat products	3.05	8.05	7.68	6.23	17.9
Rice	0.69	1.54	1.15	.87	2.5
Meat and meat products	0.61	0.99	.98	.93	2.7
Hides and skins	0.80	1.00	1.02	1.00	2.9
Dairy products	0.17	0.24	.37	.35	1.0
Poultry and poultry products	0.30	0.77	.58	.45	1.3
Other animals & animal products	0.77	1.11	1.12	1.03	3.0
Cotton	1.54	2.23	2.14	1.68	4.8
Fruits, vegetables and nuts	2.45	3.56	3.41	2.87	8.3
Tobacco	1.08	1.34	1.49	1.49	4.3
Others	0.78	1.63	2.36	2.34	6.7
Total	24.01	43.78	39.09	34.77	100.1

[a] Source: U.S. Department of Agriculture, Economic Research Service, *Foreign Agricultural Trade of the United States* (Washington, D.C.), November-December 1983, November-December 1982, and November 1977.

The composition of U.S. agricultural imports in recent years is shown in Table 26. Slightly over one-third of all U.S. agricultural imports are not produced commercially in the United States or are produced in very limited quantities because of climatic limitations. Included in this category are coffee, tea, rubber, cocoa, drugs, bananas and other tropical fruits. These products are classified as complementary imports because they do not compete directly with domestic production. The largest single commodity in this category, coffee, accounts for approximately one-half of all complementary U.S. farm product imports. Its value fluctuates substantially from year to year, depending on world production and price levels.

Table 26. Value of U.S. Agricultural Imports in 1975-76, 1979-80, 1980-81, 1981-82 and 1982-83 October-September Fiscal Years by Commodity Groups in Billions of Dollars.[a]

Product	1975-76	1980-81	1981-82	1982-83	Percent Change 1975-76 to 1981-82
Complementary Imports:					
Cocoa and chocolate	0.60	0.95	0.71	0.83	+38
Coffee	2.39	3.08	2.81	2.83	+18
Rubber	0.47	0.77	0.58	0.58	+23
Tea	0.09	0.13	0.13	0.13	+44
Bananas and plantains	0.26	0.53	0.58	0.59	+127
Drugs	0.11	0.14	0.15	0.16	+45
Others	0.28	0.32	0.33	0.35	+25
Total complementary imports	4.21	5.92	5.29	5.47	+30
Supplementary Imports:					
Dairy products	0.26	0.52	0.66	0.71	+173
Hides and skins	0.20	0.28	0.21	0.19	−5
Meat and meat products, excluding poultry	1.44	2.22	2.02	2.09	+45
Poultry and poultry products, excluding eggs	0.09	0.10	0.07	0.09	−10
Other animal products and animals	0.33	0.61	0.66	0.78	+136
Total animals and animal products	2.31	3.73	3.62	3.86	+67
Fruits, nuts, vegetables and products	0.88	2.32	1.83	1.94	+120
Sugar and products	1.35	2.42	1.38	1.23	−9
Alcoholic beverages	0.43	1.13	1.25	1.34	+212
Oilseeds and products	0.54	0.91	0.51	0.49	−9
Grains, grain products and feed	0.23	0.41	0.39	0.45	+196
Tobacco	0.28	0.37	0.48	0.73	+161
Others	0.30	0.01	0.73	0.86	+186
Total supplementary imports	6.31	11.30	10.19	10.90	+73
Total agricultural imports[b]	10.51	17.22	15.48	16.37	+56

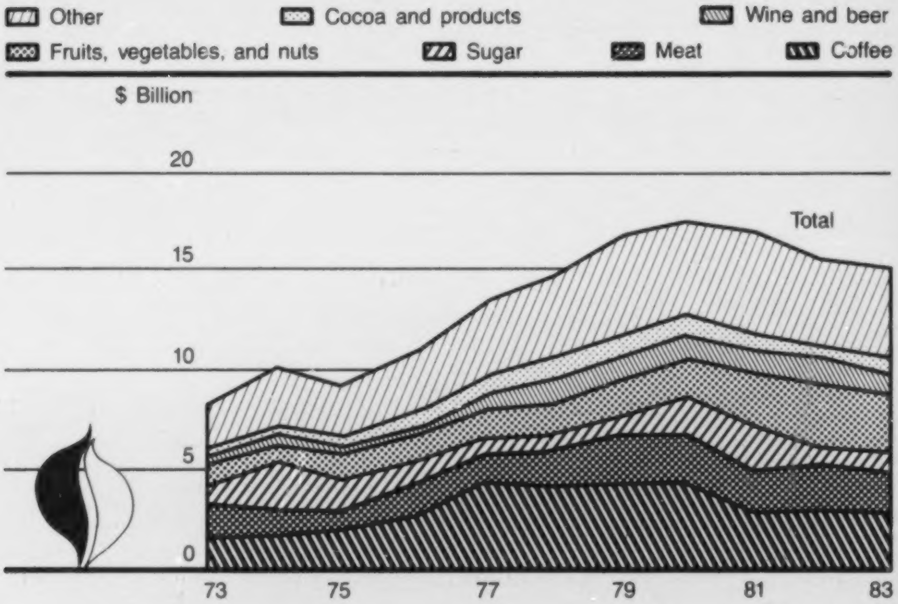
[a] Source: U.S. Department of Agriculture, Economic Research Service, *Foreign Agricultural Trade of the United States* (Washington, D.C.), November-December 1983, November 1977 and November-December 1982.

[b] Totals may not add due to rounding.

Supplementary imports are those that compete with domestic production. As shown in Table 26, animal, animal product and poultry imports account for about one-third of all U.S. supplementary agricultural imports. Slightly more than one-third of the total is accounted for by fruits, nuts, vegetables, sugar and sugar products. Alcoholic beverages and tobacco account for an additional 15 percent of the total. In addition, the United States imports small quantities of oilseeds, oilseed products, grains and feed. These imports usually originate in Canada and represent marketings from elevators, processors and farmers located near the U.S. border. In the same way, modest quantities of U.S. products flow across the border into Canada.

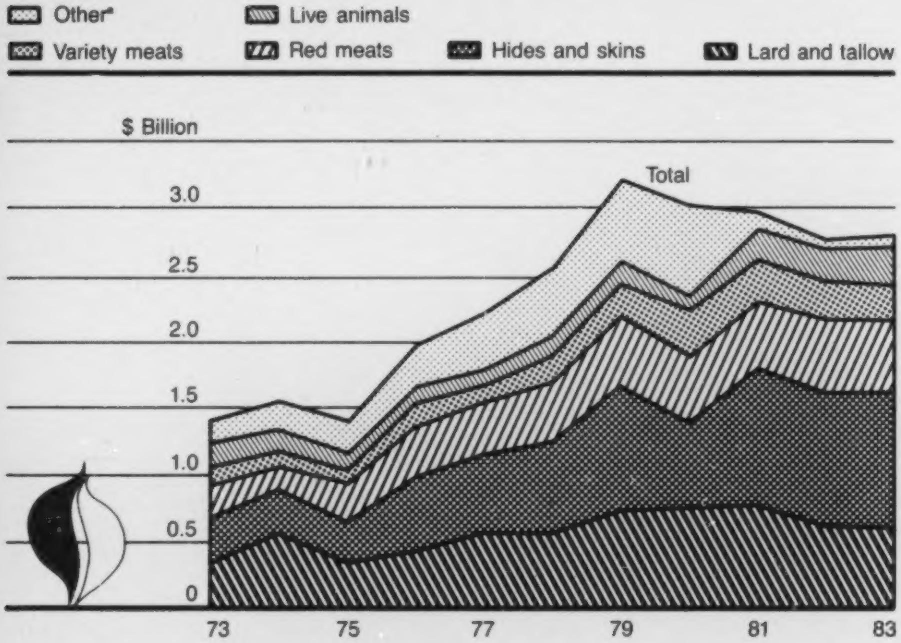
Figure 33 shows the trend in U.S. agricultural imports since the early 1970s by major commodity groupings. U.S. sugar imports have declined considerably in recent years because of technological and trade policy developments that encouraged sharply increased use of high-fructose corn sweeteners in processed foods and soft drinks. Livestock product export and meat import trends are shown in Figures 34 and 35.

Figure 33. Value of U.S. Agricultural Imports by Commodity, 1973-83 Calendar Years.



Source: U.S. Department of Agriculture, Economic Research Service, *Foreign Agricultural Trade of the United States* (Washington, D.C.), January-February 1984 and various other issues.
Note: Fruits, vegetables, and nuts include bananas. Other includes dairy products, oilseeds and products, rubber and other imports.

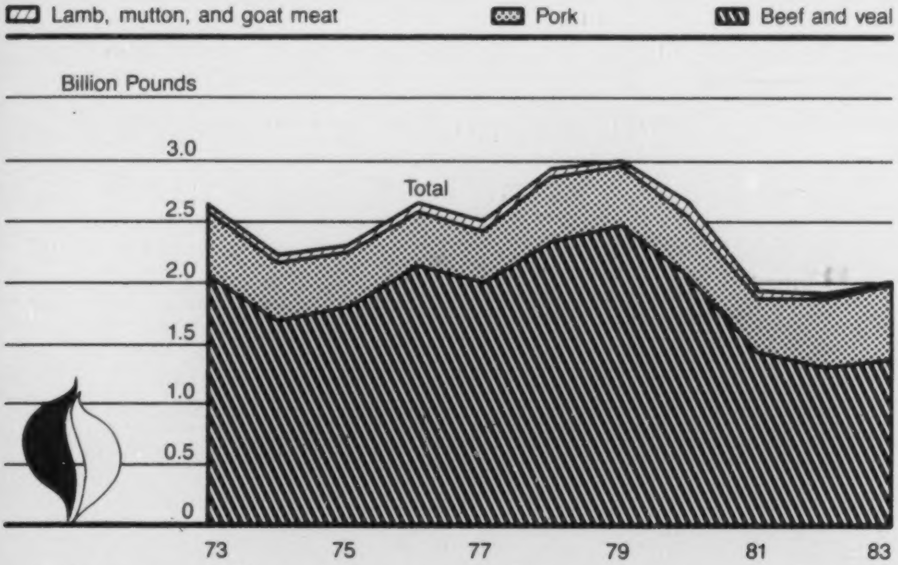
Figure 34. Value of U.S. Livestock Product Exports by Type of Product 1973-83 Calendar Years.



Source: U.S. Department of Agriculture, Economic Research Service, *Foreign Agricultural Trade of the United States* (Washington, D.C.), January-February 1984 and various other issues.

[a] Poultry exports for 1980 and earlier years are included in this category.

Figure 35. Value of U.S. Red Meat Imports by Type of Product 1973-83 Calendar Years.



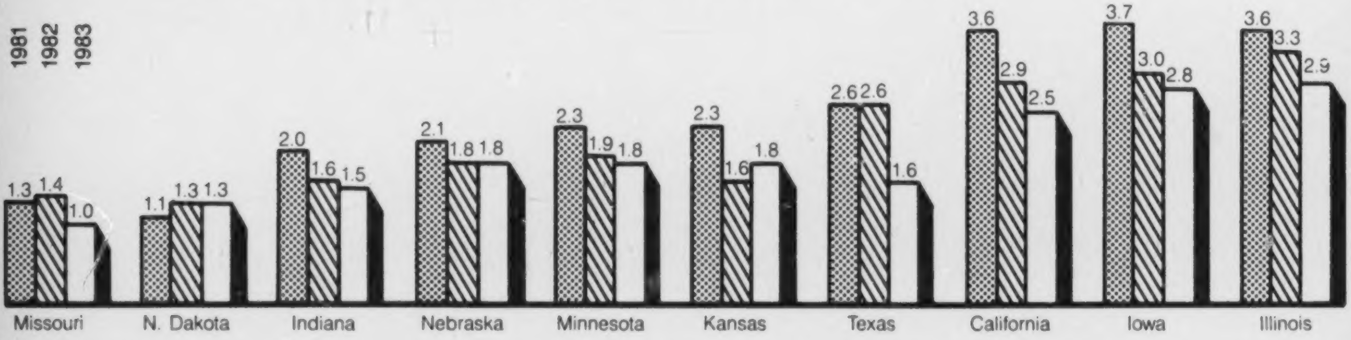
Source: U.S. Department of Agriculture, Economic Research Service, *Foreign Agricultural Trade of the United States* (Washington, D.C.), January-February 1984 and various other issues.

Value of U.S. Agricultural Exports by Leading States and Economic Groupings of Destinations

Figure 36 shows the value of farm product exports for the last three years for the top 10 exporting states in order of importance. Leading exporters include Illinois, Iowa, Texas and California, with the other top-ranking states located in the Midwest. Illinois and Iowa are major exporters of coarse grains, soybeans and soybean products and livestock. Texas and California exports reflect the products of a more diversified agriculture and include fruits, vegetables, cotton and nuts as well as grain and livestock products.

Figures 37 through 39 show total U.S. agricultural exports and corn and wheat exports by geographic areas now and in the 1970s. Western Europe has declined substantially in importance as a market for these products—particularly in the case of corn. Major growth areas for total agricultural exports during this period included Latin America, China, Southeast and East Asia. Centrally planned countries accounted for much of the growth in U.S. wheat exports during the 10-year time span. The declining importance of EC as a market for U.S. corn coincided with a growing importance of Japan and less developed nations.

Figure 36. Value of U.S. Agricultural Exports by Leading States in Billions of Dollars, Fiscal Years 1980-81 through 1982-83.



Source: U.S. Department of Agriculture, Economic Research Service, *Foreign Agricultural Trade of the United States* (Washington, D.C.), March-April 1983 and various other issues and personal communication with officials of U.S. Department of Agriculture, Economic Research Service.

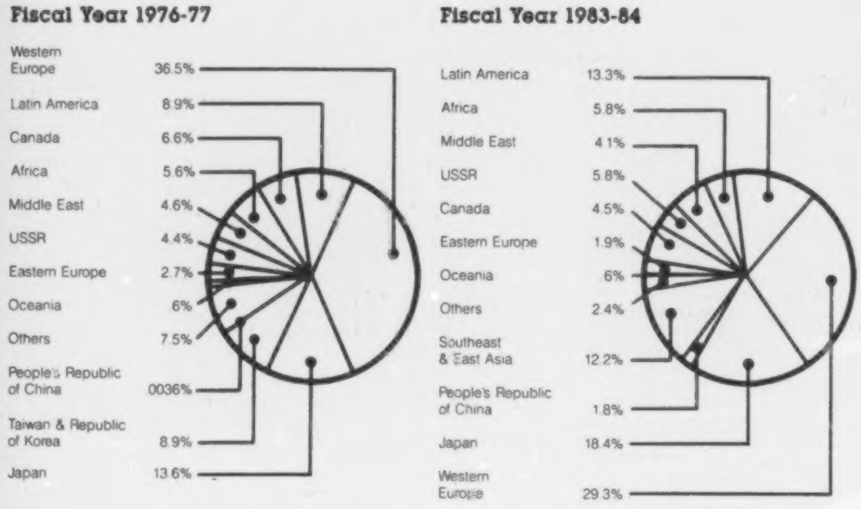


Figure 37. Value of U.S. Agricultural Exports by Destinations, 1976-77 and Projected 1983-84 Fiscal Years.

Source: U.S. Department of Agriculture, Economic Research Service, *Foreign Agricultural Trade of the United States* (Washington, D.C.), March-April 1984 and various other issues.

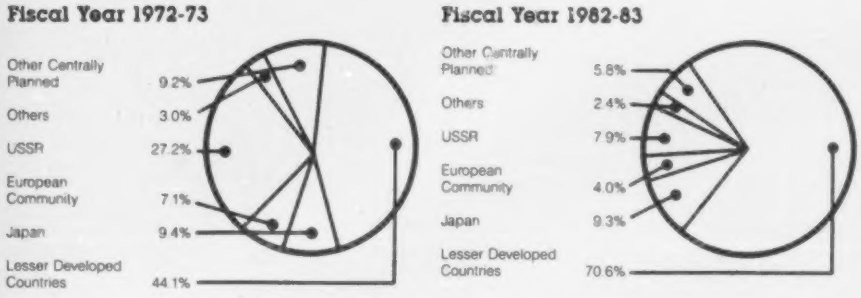


Figure 38. U.S. Wheat Export Percentage Shares to Selected Destinations, October-September 1972-73 and 1982-83.

Source: U.S. Department of Agriculture, Foreign Agricultural Service, *Foreign Agriculture Circular Grains*, FG 37-82 (Washington, D.C.), December 8, 1982 and Agricultural Marketing Service, *Grain and Feed Market News*, (Independence, Missouri), various issues.

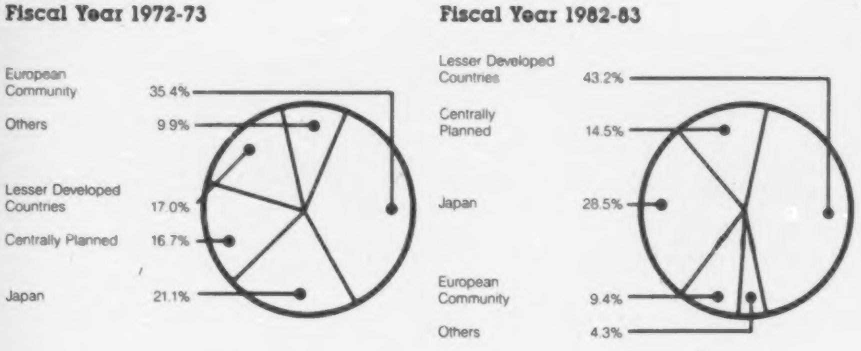


Figure 39. U.S. Corn Export Percentage Shares to Selected Destinations, October-September 1972-73 and 1982-83.

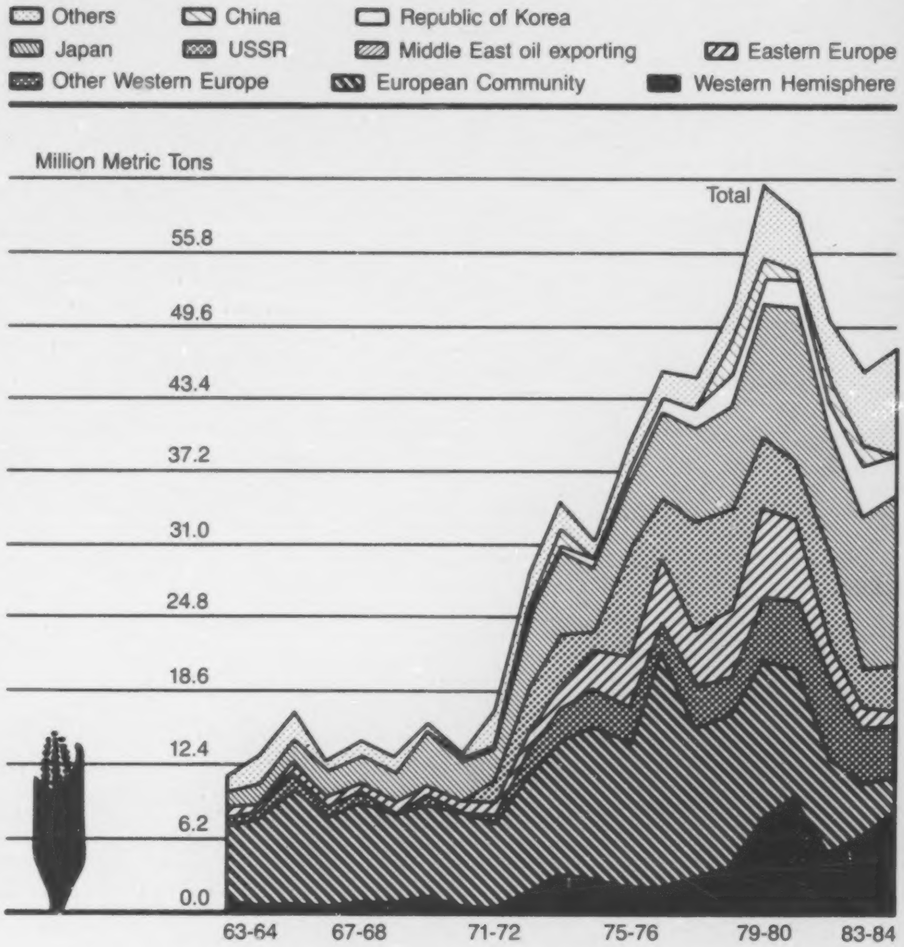
Source: U.S. Department of Agriculture, Foreign Agricultural Service, *Foreign Agricultural Circular, Grains*, FG 37-82 (Washington, D.C.), December 8, 1982 and Agriclutural Marketing Service, *Grain and Feed Market News*, (Independence, Missouri), various issues.

Trends in U.S. Corn and Coarse Grain Exports by Destination

Figures 40 and 41 indicate that foreign markets for U.S. corn and coarse grains are primarily the industrial economies of Europe, USSR and the Pacific Rim. Total U.S. exports of these commodities by October 1982-September 1983 had dropped by nearly one-fourth in physical quantities from the 1980-81 record. However, exports for the first half of the 1983-84 marketing year stabilized, and approximately a 4 percent increase over the previous season is expected for the entire 1983-84 marketing year.

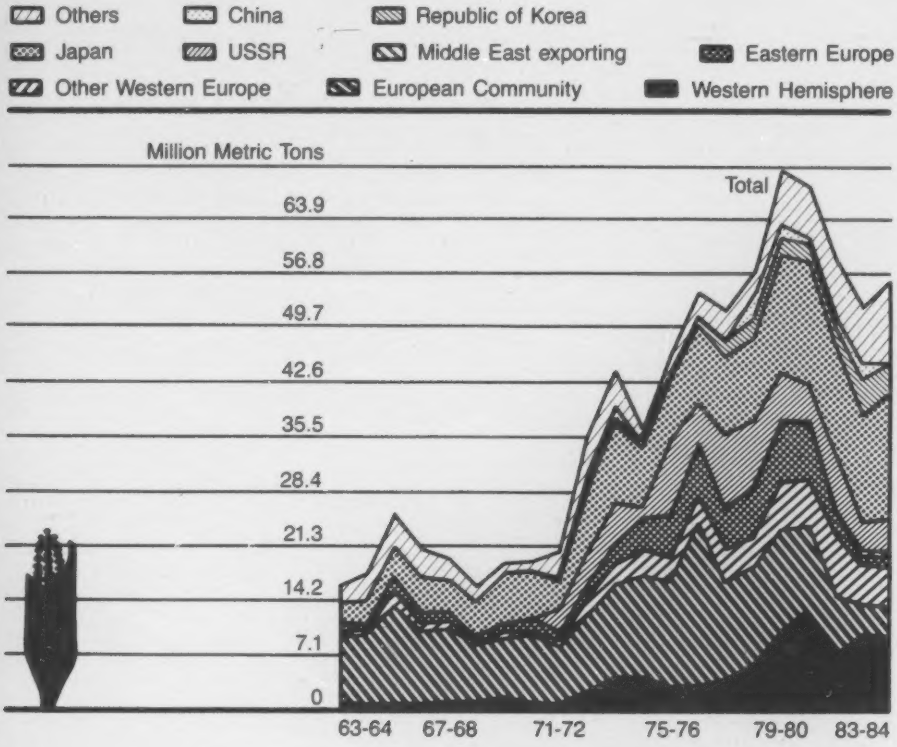
U.S. corn exports to the Western Hemisphere have increased moderately because of U.S. government credit guarantees, continued drought problems in parts of Mexico and a gradual improvement in that nation's economy. Exports of U.S. corn and coarse grains to the EC continued their downward trend as that region increased its feeding of domestically produced wheat to livestock and poultry. With limited availability of credit for grain purchases, Eastern Europe's imports of U.S. corn maintained their downward trend of recent years. Exports to Middle East oil-exporting nations continued a rapid percentage expansion in 1983-84 rate although that area is still only a small market for U.S. corn. USSR also increased its purchases of U.S. corn substantially, with total purchases exceeding the miniumum quantity specified in the new agreement. Improving economic conditions in Japan boosted that nation's imports of U.S. corn, while China imported no U.S. corn in the first half of the 1983-84 marketing year.

Figure 40. U.S. Corn Exports by Destination, October-September, 1963-64 to 1983-84.



Note: 1983-84 exports are projected using the October 1983-March 1984 percentage change from a year earlier.
Sources: U.S. Department of Agriculture, Agricultural Marketing Service, *Grain and Feed Market News* (Independence, Missouri), various issues and *Grain Market News* (Independence, Missouri), various issues.

Figure 41. U.S. Coarse Grain Exports by Destination, October-September, 1963-64 to 1983-84.



Note: 1983-84 exports are projected using the October 1983-March 1984 percentage change from a year earlier.
Sources: U.S. Department of Agriculture, Agricultural Marketing Service, *Grain and Feed Market News* (Independence, Missouri), various issues and *Grain Market News* (Independence, Missouri), various issues.

In 1983-84 and for the next few years, U.S. corn and coarse grain exports appear likely to trend slightly upward, but at a much slower rate than the explosive growth years of the 1970s. Global debt problems, high real interest rates, a relatively strong U.S. dollar and related economic developments seem likely to temper the growth in exports of feed supplies for animal agriculture during the interim period as the world adjusts to current debt burdens.

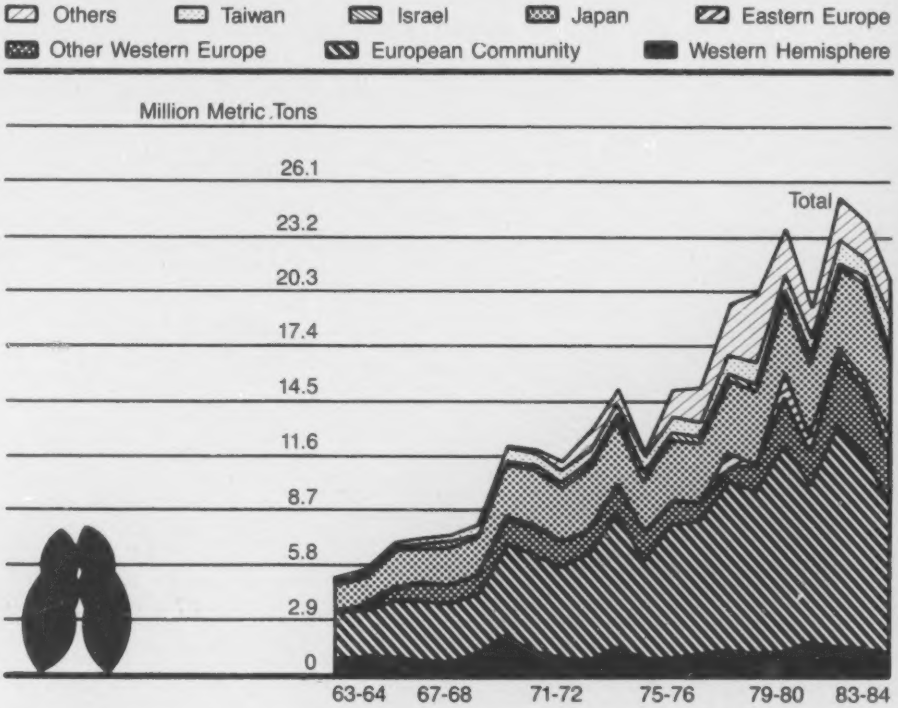
Trends in U.S. Soybean and Soybean Product Exports by Destinations

Like corn and coarse grains, U.S. soybean and soybean meal exports are shipped mainly to industrialized nations where they are used as inputs for livestock and poultry production (see Figures 42 and 43). In contrast, U.S. soybean oil exports are destined largely to developing nations, where they are used for direct human consumption as cooking oils. Prior to 1983-84, U.S. soybean and soybean meal exports were less severely affected by debt pressures and other economic problems than corn and coarse grains. Less sensitivity in the soybean complex at least in part reflected fewer competing protein supplies outside the United States than in the case of grains, and recent soybean and soybean meal prices that had been low relative to U.S. corn prices. Low prices in the soybean complex had encouraged increased use of soybean meal at the expense of grain in livestock rations.

In 1983-84, however, reduced U.S. soybean plantings and a severe U.S. drought sharply reduced U.S. exports, since supplies were simply not available to maintain exports at the level of the previous two years. Because of sharply higher soybean prices and a strong U.S. dollar, which further increased foreign buyers' costs of U.S. soybeans and meal, exports were sharply reduced in 1983-84. Preliminary estimates place U.S. soybean exports about 16 percent below the previous fiscal year, while U.S. soybean meal exports declined by about one-fourth. U.S. soybean exports to nearly all major foreign destinations declined in 1983-84. The greatest percentage decline occurred in the EC—which is the single largest foreign market area for U.S. soybeans. In the first half of the October-September trade year, U.S. unprocessed bean exports to this destination were about one-fourth less than a year earlier. EC's Common Agricultural Policy contributed to the sharp drop in soybean (and meal) imports because EC internal corn prices have been largely insulated from effects of the U.S. drought and Payment-In-Kind Program by variable import levies and other price support mechanisms. However, soybeans and soybean meal enter the EC duty-free, and their cost varies directly with world price levels. Low soybean meal prices in recent years and high internal EC corn and coarse grain prices had encouraged soybean meal to be used both as an energy source or grain substitute and a protein ingredient in livestock and poultry rations. But the sudden, dramatic rise in soybean and soybean meal prices in 1983 caused computerized EC feed manufacturing operations to reduce the use of soybean meal as a grain substitute. Dramatic strength in the U.S. dollar against European currencies added to the incentive to reduce soybean meal utilization. Other foreign destinations showed somewhat smaller percentage declines than in the EC because free market corn prices in these areas have been much lower than in EC and had not previously encouraged the use of soybean meal as an energy source (or grain substitute) as in the EC.

U.S. soybean meal export trends in 1983-84 exhibited somewhat more variability from one destination to another than in soybeans. For example, U.S. soybean meal exports to EC fell approximately one-third below a year earlier during the first half of 1983-84, along with nearly a one-fifth decline in exports to Japan. Exports to

Figure 42. U.S. Soybean Exports by Destination, October-September, 1963-64 to 1983-84.



Note: 1983-84 exports are projected using the October 1983-March 1984 percentage change from a year earlier.
Sources: U.S. Department of Agriculture, Agricultural Marketing Service, *Grain and Feed Market News* (Independence, Missouri), various issues and *Grain Market News* Independence, Missouri), various issues.

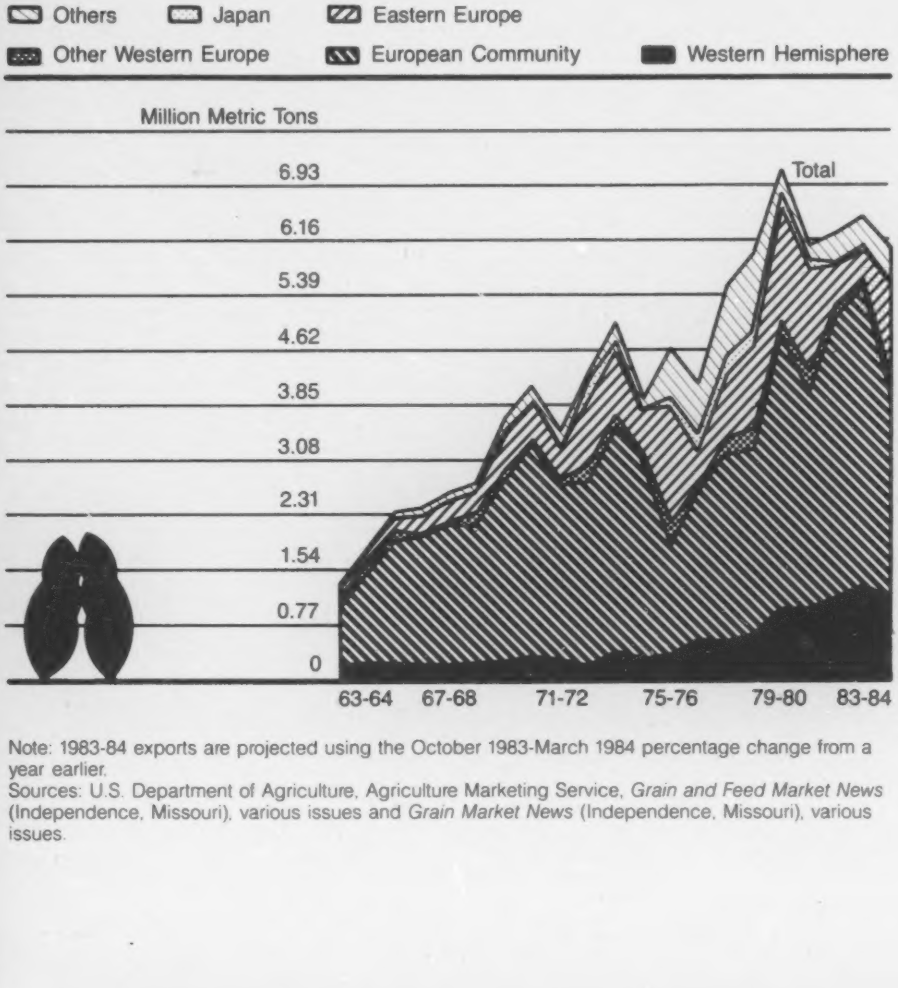
Eastern Europe, on the other hand, rose sharply as that area made efforts to generate a recovery in its livestock and poultry industry after the severe down-trend of recent years.

Figures 42 and 43 indicate that in the past, U.S. soybean and soybean meal exports have recovered sharply the next year after U.S. supplies have been severely reduced by drought. For example, the trade years 1974-75 and 1980-81 were other years of short U.S. supplies. As supplies recovered the next season and soybean and soybean meal prices declined to more normal levels, U.S. soybean exports recovered almost to the pre-drought levels. In those same years, soybean meal exports exhibited a partial recovery, although additional time was required before pre-drought levels were reached.

Given a return to more normal U.S. soybean yields and production in 1984 and the next few years, a similar recovery pattern seems likely. For the latter part of the current decade and beyond, increased use of protein meal to improve livestock and poultry feed conversion efficiency in Eastern Europe, USSR and other areas appears likely to bring a modest upward trend in U.S. soybean and soybean meal exports.

U.S. soybean oil exports were reduced in 1983-84 by some of the same influences as other commodities, including sharply higher soybean oil prices than a year earlier, the strong U.S. dollar and debt problems in foreign nations. Preliminary estimates show approximately a one-fifth decline from a year earlier in U.S. soybean oil exports in the trade year ending September 30, 1984. As with soybeans and meal, U.S. exports of soybean oil fell sharply because of drought-reduced supplies. The reduction was brought about by normal market processes and the rationing effect of sharply higher prices. India was one exception to the general downward trend in U.S. soybean oil exports in 1983-84 (see Figure 44). Because of reduced Indian oilseed production and reduced availability of palm oil from Malaysia during the October-May period, India's purchases of U.S. soybean oil sharply exceeded a year earlier. As Figure 44 indicates, this is not an unusual development. India's purchases of U.S. soybean oil have varied substantially from year to year, depending on its domestic oilseed production and cost and availability of other vegetable oils.

Figure 43. U.S. Soybean Meal Exports by Destination, October-September, 1963-64 to 1983-84.



Note: 1983-84 exports are projected using the October 1983-March 1984 percentage change from a year earlier.
Sources: U.S. Department of Agriculture, Agriculture Marketing Service, *Grain and Feed Market News* (Independence, Missouri), various issues and *Grain Market News* (Independence, Missouri), various issues.

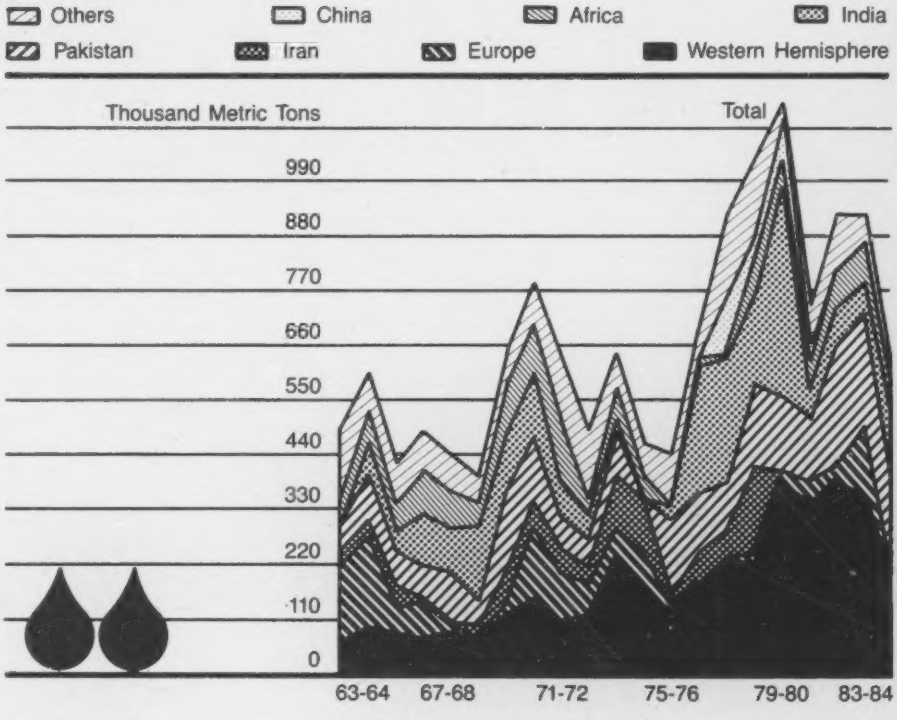
The decline in total U.S. soybean oil exports in 1983-84 is not a reflection of weak global demand for soybean oil. Instead, soybean oil demand was somewhat stronger than usual. Nearly a doubling of the U.S. season average price was required to reduce soybean oil exports to match the sharply lower U.S. supplies, and to maintain October 1, 1984, U.S. and world soybean oil carryover stocks at minimum pipeline levels. Relatively strong demand for soybean oil reflected temporary supply problems in certain competing vegetable oils rather than a long-term shift in global demand for fats and oils. In 1983-84, dry weather substantially reduced Malaysian palm oil production and exports during the first half to two-thirds of the trade year. These problems brought an abrupt, but temporary, reversal of the strong upward trend of global palm oil production in recent years.[19] Demand for soybean oil also was enhanced by an unusually small U.S. cottonseed crop (down 35 percent from 1982 and down 51 percent from 1981),[20] a resulting decline in U.S. cottonseed oil supplies and by cyclically reduced olive oil production in Mediterranean countries. In addition, the demand for soybean oil and other vegetable oils is highly inelastic; a sharp increase in price generates only a small percentage change in utilization. These developments largely explain the sharp rise in U.S. and world soybean oil and vegetable oil prices in 1983-84.

U.S. soybean oil exports to Western Hemisphere nations were curtailed slightly by strong demand for U.S. government export financing assistance in other commodities and by soybean oil prices, which increased more rapidly than the availability of government funding for export assistance programs.

In evaluating longer-term export prospects for U.S. soybean oil, Figure 44 shows that exports have been highly variable over the past two decades but have trended modestly upward because of a growing population in developing nations. In these same countries, per capita consumption of fats and oils remains low and is moderately sensitive to changes in per capita incomes. Upward trending incomes and population in these areas appear likely to push U.S. soybean oil exports irregularly higher in the years ahead. In developed economies, however, per capita food fat and oil consumption already is large and is expected to increase only slowly. Thus, developing nations appear likely to continue as the leading destinations for U.S. soybean oil exports in the foreseeable future. And because soybean oil competes with at least a dozen other fats and oils, variations in availability of competing products are expected to continue large year-to-year variations in U.S. exports.

Major competing products include butter, lard, tallow, sunflower seed oil, cottonseed oil, rapeseed oil, peanut (groundnut) oil, palm oil, coconut oil, safflower oil, olive oil and fish oil. In global terms, soybean meal demand has grown more rapidly than the demand for soybean oil during the past two decades. Diverging trends for the two products appear because of: (1) strong dietary shifts toward more meat and poultry consumption, as consumer incomes increase in rapidly and moderately developing nations—and a resulting strong upward trend in global demand for protein feed ingredients for efficient livestock and poultry production and (2) much lower protein content and lower quality of protein in major oilseeds that compete with soybeans. Most competing oilseeds are much higher in oil content than soybeans, thus tending to increase competition in the oil sector of the soybean complex more than in the meal sector. These same forces appear likely to continue in the years ahead. From the viewpoint of the U.S. soybean industry, such trends suggest a need for continued priority on market development efforts for soybean oil and a potential payoff from development of new industrial products from soybean oil. Unusually tight 1983-84 soybean oil supplies appear to be a temporary development, although at least one to three years may be needed to rebuild global supplies to pre-1983-84 levels.

Figure 44. U.S. Soybean Oil Exports by Destination, October-September, 1963-64 to 1983-84.



Note: 1983-84 exports are projected using the October 1983-March 1984 percentage change from a year earlier.
Source: U.S. Department of Agriculture, Foreign Agricultural Service, *Foreign Agriculture Circular, Oilseed and Products*, (Washington, D.C.), various issues.

Trends in U.S. Wheat Exports by Destinations

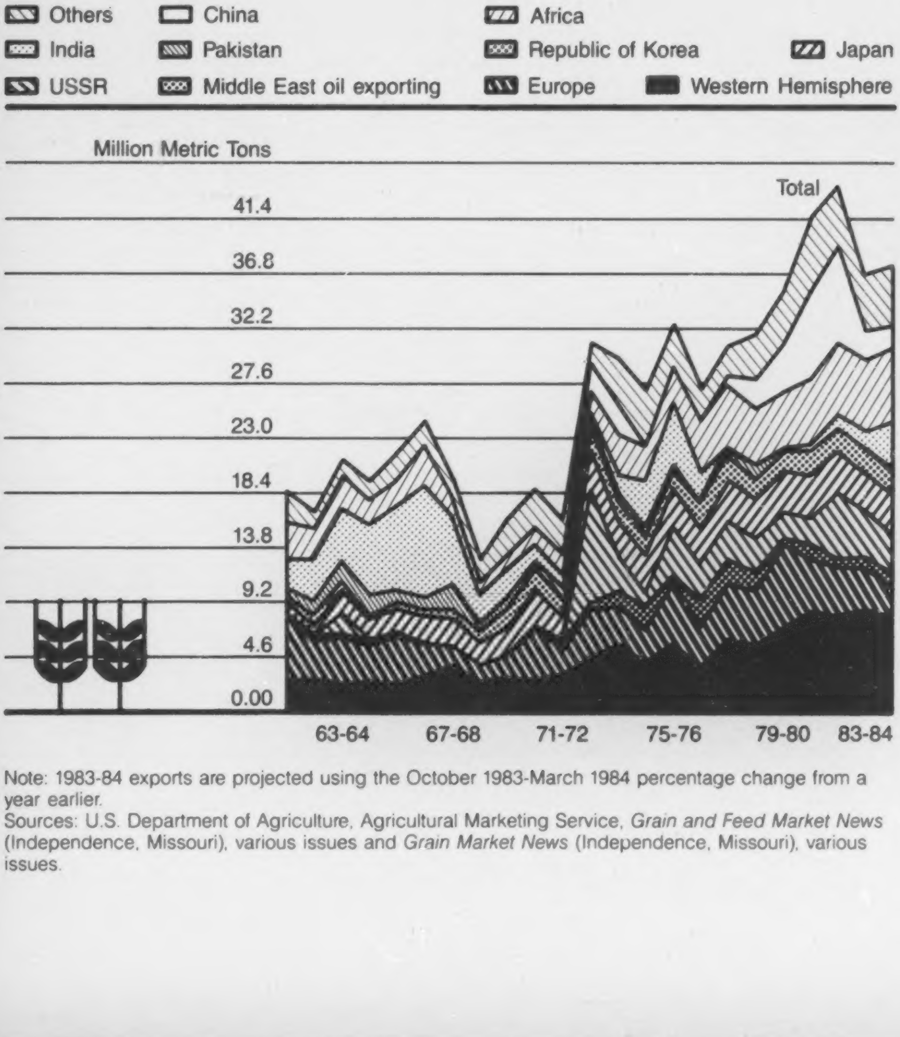
Preliminary projections indicate U.S. wheat exports for the October 1983-September 1984 trade year will be approximately 2 percent below a year earlier. U.S. wheat exports have declined for two consecutive years, dropping approximately one-fifth below the record 1981-82 level. The largest percentage declines were in exports to India (down 63 percent), Middle East oil-exporting nations (down 28 percent) and Japan (down 7 percent). Increased U.S. wheat exports to Latin America, Europe, USSR and China nearly offset reduced exports to these areas. However, large wheat supplies in Canada, Australia, Europe and Argentina, global debt problems and the strong U.S. dollar kept the nation's wheat exports from recovering from the recent down-trending pattern.

From a longer-term perspective, U.S. wheat exports are relatively large. Total 1983-84 exports were approximately 17 percent above a decade ago. However, upward-trending U.S. average wheat yields combined with reduced exports are keeping U.S. wheat carryover stocks at record or near-record levels and are maintaining downward pressure on prices received by U.S. wheat producers.

As illustrated in Figure 45, U.S. wheat exports have been highly variable from year to year for more than two decades. Short-term variability is caused partly by fluctuations in wheat production in four important areas—India, China, USSR and Australia. The first three are populous nations with a history of substantial variation in weather conditions from one year to the next. They often are large net wheat importers, with total imports fluctuating inversely with domestic production. Australia also has highly variable climatic conditions and is a major net exporter of wheat. In years when its production is large, U.S. exports tend to face increased competition in world markets. Unlike the United States, Australia and other major wheat exporters have not developed a policy of accumulating large long-term wheat reserve stocks when crops are large.[21] This combination often leaves the United States as a residual supplier in world wheat markets. When world supplies are large, the United States accumulates carryover stocks and often experiences a declining share of global exports. When competing supplies in Australia and other exporting nations are small, the U.S. wheat export share tends to increase as U.S. reserve stocks fill the gap created by reduced foreign production. Whether this pattern continues in the future will depend at least partly on new U.S. agricultural legislation to be developed in 1985 to replace expiring statutes relating to price support programs and grain reserves.

Early indications point to steady to slightly increased U.S. wheat exports in 1984-85 because of gradually improving world economic conditions and a 10 percent or 35 cent per bushel ($12.88 per metric ton) decline in the U.S. price support level for 1984 crop wheat. During the next few years, continued world population growth and a gradually improving world debt situation appear likely to bring some additional growth in U.S. wheat exports. Strong competition in world markets is expected as foreign producers expand their use of fertilizer, higher-yielding varieties and other technological developments. Also, world economic growth rate is expected to be considerably slower than in the 1970s. Thus, U.S. wheat exports should not be expected to return immediately to the explosive growth rates of the 1970s.

Figure 45. U.S. Wheat Exports by Destination, October-September Fiscal Years, 1961-62 to 1983-84.



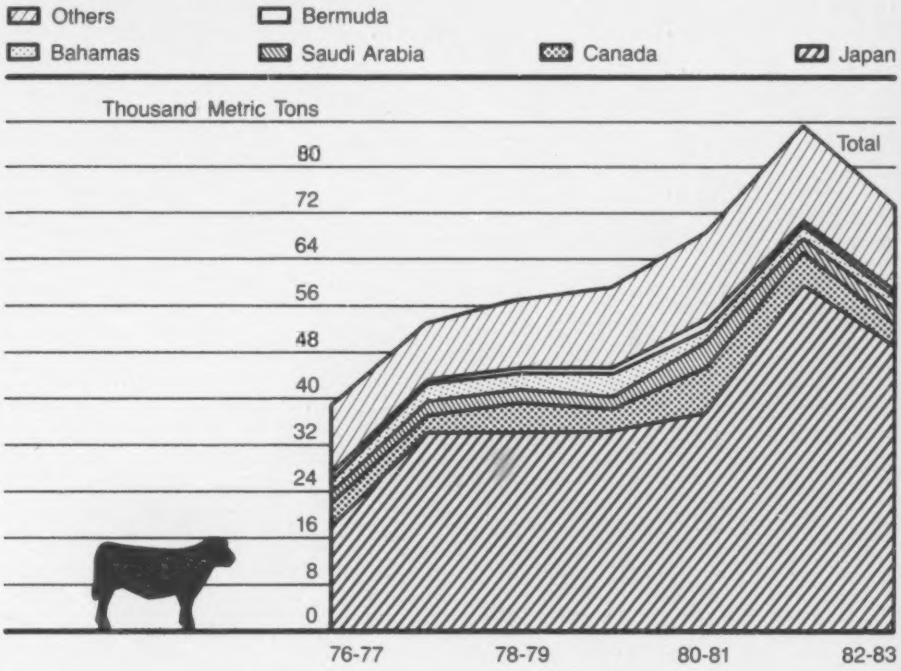
Note: 1983-84 exports are projected using the October 1983-March 1984 percentage change from a year earlier.
Sources: U.S. Department of Agriculture, Agricultural Marketing Service, *Grain and Feed Market News* (Independence, Missouri), various issues and *Grain Market News* (Independence, Missouri), various issues.

Trends in U.S. Red Meat and Poultry Meat Exports by Destinations

Japan and Canada are the largest foreign markets for U.S. beef and pork, while the nation's variety meat exports are shipped to a more diversified set of destinations. As Figure 46 indicates, preliminary data show 19 percent larger total U.S. beef exports in the 1982-83 October-September fiscal year than in the previous season. Much of the increase was caused by a 23 percent rise in U.S. exports to Japan. That nation currently accounts for about two-thirds of all U.S. beef exports. Moderate increases also were recorded in U.S. beef exports to most other major destinations in 1982-83 with the exception of Saudi Arabia.

U.S. beef exports on a tonnage basis have increased every year since 1976. Future trends will depend heavily on Japanese import policies, because that nation is the leading outlet for U.S. beef exports. American government officials in recent years have continually encouraged Japan to reduce its import restrictions on U.S. beef. However, Japan's farmers have strong political influence and continue to resist sharply expanded U.S. beef imports because of likely downward pressure on Japanese cattle prices and profit margins of producers. While future negotiations may bring additional easing of import restrictions, a major relaxation of Japan's import barriers seems unlikely in the immediate future. In the remainder of the decade, market development efforts also may open up additional export demand for U.S. beef, but resistance of beef producers in such nations will likely be a restraining influence on the growth rate of total U.S. beef exports.

Figure 46. U.S. Beef Exports by Major Destinations, 1976-77 through 1982-83 October-September Fiscal Years.

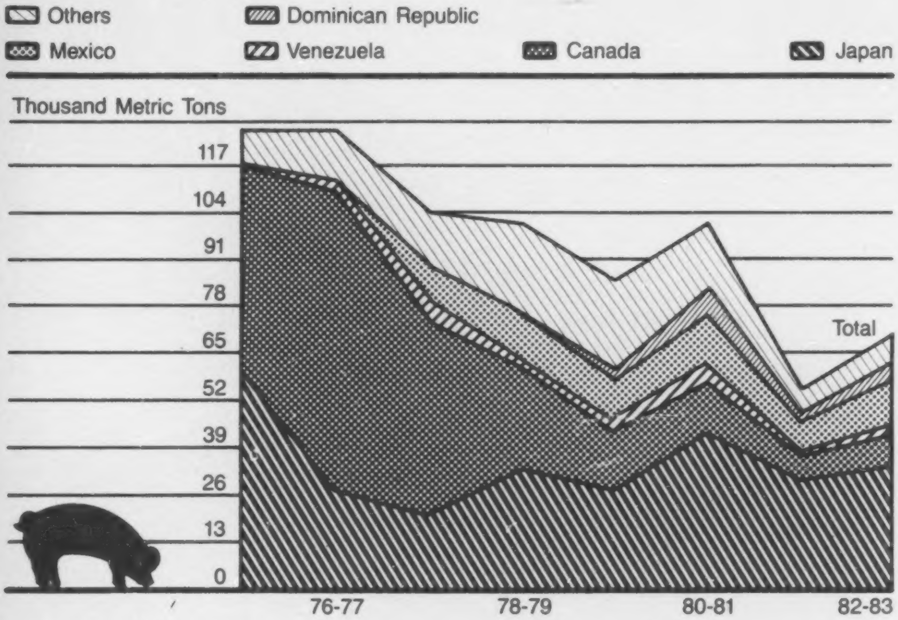


Source: U.S. Department of Agriculture, Economic Research Service, *Foreign Agriculture Trade of the United States* (Washington, D.C.), November-December 1983 and various other issues.

In contrast to beef, the nation's pork exports continued a long-term downward trend in 1982-83, as shown in Figure 47. On a tonnage basis, preliminary estimates place fiscal year 1982-83 U.S. pork exports 21 percent below the previous year and less than half as large as in 1976-77. Japan is the largest export market for U.S. pork, importing about half of the U.S. pork exports in 1982-83. Japan's imports of U.S. pork last season declined 11 percent from the previous fiscal year; in addition, exports to all major destinations declined sharply.

Declining pork exports partly reflect world economic problems, as well as growing competition from Eastern and Western Europe as those areas attempt to increase exports of value-added products. The long-term downward trend makes future U.S. pork export prospects uncertain, although improved global economic conditions later in the current decade may help to stabilize or slightly expand foreign demand for U.S. pork.

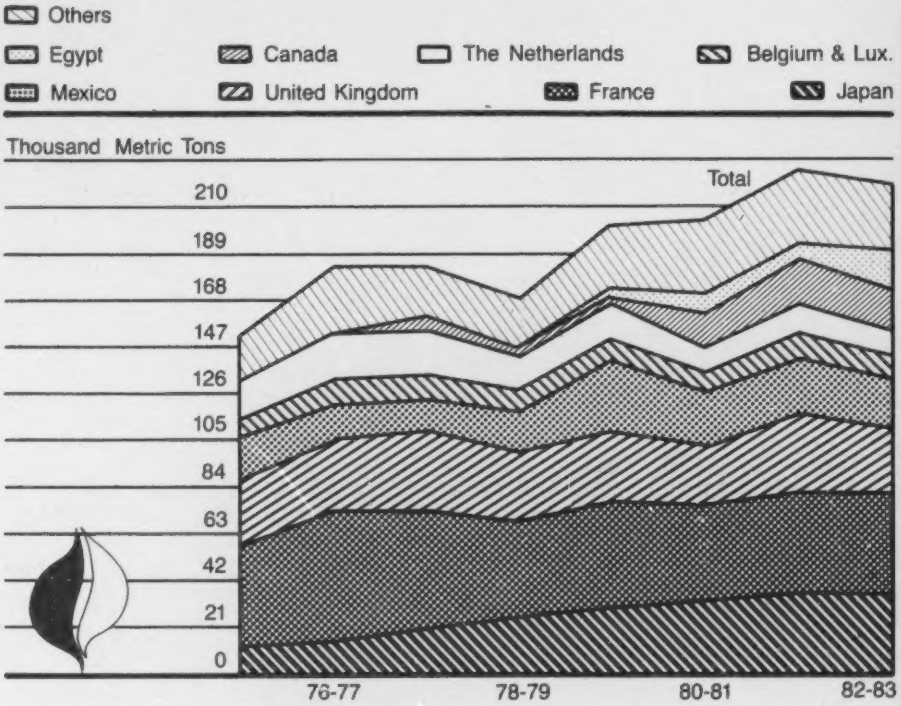
Figure 47. U.S. Pork Exports by Major Destinations, 1975-76 through 1982-83 October-September Fiscal Years.



Source: U.S. Department of Agriculture, Economic Research Service, *Foreign Agriculture Trade of the United States* (Washington, D.C.), November-December 1983 and various other issues.

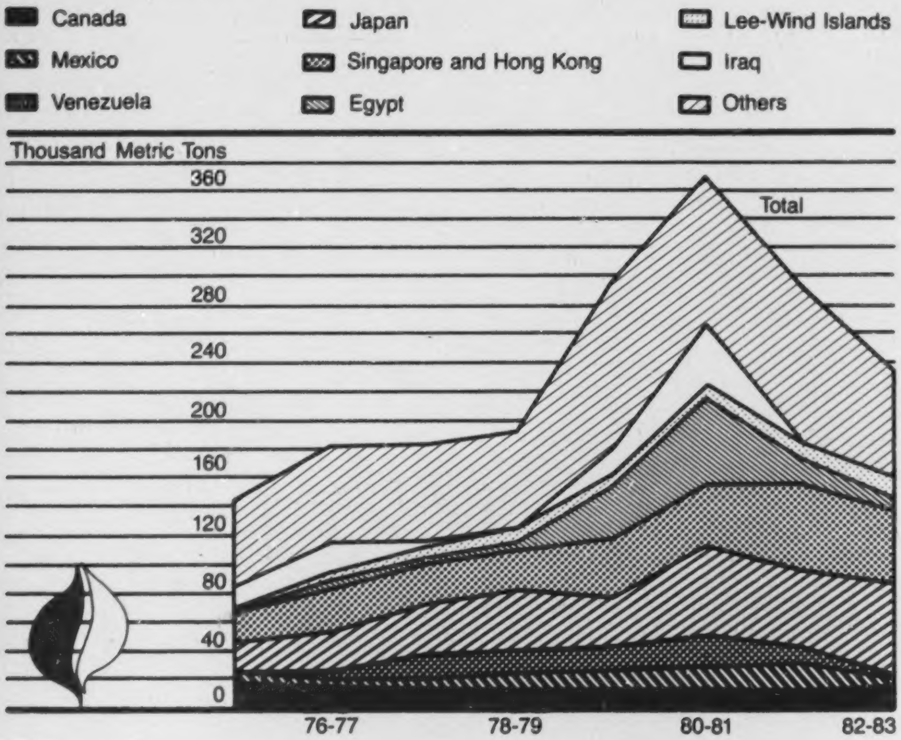
United States exports of edible offals and variety meats have trended modestly upward since 1979 (see Figure 48), with major destinations being West European nations and Mexico. In addition, the Canadian market for these products has grown considerably in the past two years. Egypt also has emerged as a small but growing market for edible offals and variety meats since 1979.

Figure 48. U.S. Exports of Edible Offals and Variety Meats by Major Destinations 1975-76 through 1982-83 October-September Fiscal Years.



Source: U.S. Department of Agriculture, Economic Research Service, *Foreign Agriculture Trade of the United States* (Washington, D.C.), November-December 1983 and various other issues.

Figure 49. U.S. Poultry Meat Exports by Major Destinations 1975-76 through 1982-83 October-September Fiscal Years.



Source: U.S. Department of Agriculture, Economic Research Service, *Foreign Agriculture Trade of the United States* (Washington, D.C.), November-December 1983 and various other issues.

Major destinations for U.S. poultry meat exports are Japan, Singapore, Hong Kong, Canada, Mexico, the Lee-Wind Islands and a large number of smaller markets (see Figure 49). As with several other major U.S. agricultural commodities, U.S. poultry meat exports have dropped sharply below previous record levels during the past two years. Preliminary estimates indicate 1982-83 exports were 20 percent below the previous fiscal year and 37 percent below the record 1980-81 level. Factors contributing to the decline include strong competition from Western Europe and Brazil, sluggish world economic growth and the strong U.S. dollar—which has added to foreign buyers' costs of purchasing U.S. poultry meat. Longer-term export prospects will remain clouded until the world economy moves into a more rapid expansion path and/or the U.S. dollar weakens significantly.

The European Community: Its Evolution and Emerging Trade Policy Conflicts with the United States

The ten-nation European Community (EC) is the largest single foreign market for U.S. farm products. With changes in its agriculture in the 17 years since the inception of its agricultural price support system, the EC has moved into strong export competition with the United States in several agricultural products. In a sense, the United States and EC appear to be on a collision course in international trade policy. In the next few years, it will be important for policy makers on both sides of the Atlantic Ocean to recognize the different philosophies that have influenced their respective farm price and trade policies and to avoid escalation of economic difficulties into a trade war.

Early groundwork for the EC began in 1947 with the Marshall Plan and the Organization for European Economic Cooperation (OEEC) to plan, facilitate and coordinate Marshall Plan aid from the U.S.[22] In fact, such cooperation was mandated by the U.S. Foreign Assistance Act of 1948 which appropriated Marshall Plan funds and expressed the following views on European Economic cooperation:[23]

> Mindful of the advantages which the United States has enjoyed through the existence of a large domestic market with no internal trade barriers, and believing that similar advantages can accrue to the countries of Europe, it is declared to be the policy of the people of the United States to encourage these countries through a joint organization to exert sustained efforts. . . which will speedily achieve that economic cooperation in Europe which is essential for lasting peace and prosperity.

Original members of the OEEC were Austria, Belgium, Denmark, France, Greece, Ireland, Iceland, Italy, Luxembourg, the Netherlands, Norway, Portugal, Sweden, Switzerland, Turkey and the United Kingdom. West Germany and Spain joined the organization later.[24] Within this group, two smaller organizations emerged. First was Benelux, an economic union of Belgium, Netherlands and Luxembourg beginning in 1947, which provided for complete removal of tariffs among the three members and establishment of a uniform external tariff for trade with non-member nations.[25] Second was the European Coal and Steel Community (ECSC) formed in 1952 and representing the official beginning of the EC as it is known today. Original members of the ECSC were France, Italy, West Germany, Belgium, Netherlands and Luxembourg. As the name implied, the initial focus of this organization was on industrial economic activity. By January 1, 1958, through ratification of the 1957 Rome treaty the ECSC had evolved into the European Common Market and was intended to encourage European political unity and free trade and free movement of factors of production among member nations.[26] A 12-year transition period was set up to provide gradual movement toward these objectives through eventual elimination of intra-EEC tariffs, import quotas, discriminatory freight rates and other trade barriers and establishment of common external tariffs.[27] By 1960, these six nations represented a population of 169 million persons, slightly less than the U.S. population of 181 million persons. Total land area of the EEC-6 was equivalent to only 12 percent of the U.S. land area.[28]

The European Economic Community was enlarged with the admission of the United Kingdom, Denmark, and Ireland into the Community in 1973.[29] In January 1981, it became the 10-nation EC when Greece officially joined the organization. That enlarged the EC into a total market area of approximately 240 million persons,[30] slightly larger than the total U.S. population. Present plans call for the EC to be further expanded in size in the mid-1980s with the entrance of Spain and Portugal into the organization.

The Common Agricultural Policy

EEC Common Agricultural Policy (CAP) for farm products began on January 1, 1967, for fruits and vegetables; July 1, 1967, for grains, pork, eggs and poultry meat; April 1, 1968, for dairy products; and July 1, 1968 for sugar. Specific details of the CAP have been modified over the years, but its basic features included relatively free intra-EEC trade, stabilization and protection of domestic prices for cereals, milk, beef, poultry meat and sugar beets against fluctuations in world prices through a variable levy or import tax and other government intervention.[31]

Through the years, EEC domestic price farm prices have been supported above world market levels by the CAP in order to encourage increased self-sufficiency in food production. Reasons for the EEC's high priority on domestic self-sufficiency in food production, no doubt, can be traced back at least partly to conditions during and immediately after World War II, when widespread food shortages and hunger prevailed. An additional factor behind high internal support prices for EEC farm products has been a desire to maintain small-scale farming units. In some ways, the CAP has had a social dimension by retarding what would otherwise have been large-scale movement of farm families into cities with resulting urban adjustment problems and social costs. To illustrate the much smaller typical farm size in EEC than in the United States, the average EC farm at the inception of the CAP in 1967 encompassed 11.4 hectares (28.2 acres), compared with the U.S. average of 146 hectares (360.6 acres). Only 3 percent of EEC's farms at that time were over 124 acres in size, and 14 percent of its total labor force was employed in agricultural production compared with 5 percent in the United States.[32] High priority on self-sufficiency in food production and in maintaining economic viability of small farms continues to influence today's EC farm policies, as does the relatively strong political influence of its farmers. Price support programs designed to accomplish these objectives have generated significant EC surpluses of wheat, dairy, poultry, pork and, at times, beef products. As a result, EC has become a strong trade competitor of the United States in several of these commodities and there are strong pressures for both groups to reexamine their farm programs and trade policies. Both EC and the United States have incurred large government costs in attempting to deal with surplus production.

The EC Grain Price Support System[33]

EC's grain price support system involves **target prices, intervention prices** and **threshold prices** as well as various mechanisms for dealing with intra-EC and external exchange rate fluctuations, storage returns and transportation factors. The system is applied to wheat, rye, barley and corn (maize) but not to oilseed crops and oilseed products, such as soybeans, soybean oil and soybean meal. **Target prices** are the desired wholesale price in the most grain deficit (and thus highest priced) area, Duisburg, West Germany. Annual adjustments in this price are based on economic conditions facing producers, availability of EC funds for price support operations and the domestic supply situation. Prices of grain in other areas are related to Duisburg by transportation costs. In addition, target prices and the other price support levels are increased each month through the marketing year starting in September to encourage storage of grain and an even flow of marketings throughout the year. The support system also includes an end-of-season stock subsidy to encourage storage of minimum carryover stock needs, and various adjustments are made for quality and speciality type grains, such as durum wheat.

A second part of the price support system, the **threshold price,** is used to determine the amount of import tax or variable levy applied to grain imported from non-EC sources. Threshold prices are calculated for Rotterdam but apply to all ports of entry into EC. Threshold prices for all grains are based on the transportation differential between Duisburg and Rotterdam. Because world prices normally are well below EC support levels, a variable levy or import tax is applied to grain imports to bring the effective price up to the threshold level. At times, grain traders are allowed to fix the current day's level for a limited time, such as 30 days, to facilitate hedging operations. Imports are made through a licensing system to provide a means of enforcing these regulations.

The **intervention price** is based on the largest surplus supply area, Ormes, France. It is the trigger point for initiating direct purchasing of grain by EC authorities to remove surplus supplies from domestic markets. Intervention prices are set modestly below target and threshold prices to permit limited fluctuations in EC internal grain prices. The various support prices for corn (maize) for the beginning of 1982-83 in West German Marks (dm) per metric ton were as follows: target price, 587.85; threshold price, 574.97; intervention price, 461.66. These levels were increased by 6.28 dm per month during the 1982-83 marketing year to provide storage returns.

Another part of the EC grain price support system provides for **export refunds** or **restitutions** on surplus commodities sold into lower-priced non-EC markets. The European Commission has substantial discretionary authority in determining the amount and timing of such rebates. Political considerations, grain prices of other exporting nations, ocean freight rates and the domestic EC supply-demand situation are taken into consideration in determining what rebates, if any, should be applied. At times when the EC is a substantial exporter of wheat or other grains and grain products, export rebates generally have been large in order to bridge the gap between high internal EC prices and normally much lower world market prices. As an example of the recent differential between EC and world grain prices, the variable import levy (tax) on corn (maize) in early May 1984 was $54 per metric ton ($1.37 per bushel) along with levies of $75.60 on wheat, $68.80 on barley and $79.10 on sorghum. The corn levy was equal to one-third of the delivered cost of corn at Rotterdam. Barley export refunds at that time were $41.25 per metric ton. Wheat export refunds in mid-April were $28.35 per ton ($.77 per bushel).[34]

Currency Adjustment Mechanism[35]

Administration of EC's Common Agricultural Policy is further complicated by fluctuating exchange rates for currencies of member nations and trading partners outside EC. To deal with these problems and insulate the EC farm price support system from short-term fluctuations in currency relationships, a **European Monetary System** (EMS) has been developed. The current system has been in effect since March 1979 with some modifications. Its basic monetary conversion unit is the **European Currency Unit** (ECU), a term applied to French coins from the fourteenth through eighteenth centuries. The ECU represents the composite value of the basket of EC currencies with each individual currency and the U.S. dollar carrying an exchange rate in terms of ECUs. The EMS involves "green currency rates," which often are different from prevailing financial market rates and are applied in determining internal price support rates in the local currencies of member nations. **Green currency rates** express the local currency exchange value in terms of the ECU for agricultural price support purposes. Green rates are adjusted periodically to reflect changing local currency relationships with the ECU by applying **Monetary Compensatory Amounts** (MCAs). The MCAs can be positive for member countries with strong currencies but may be negative for those with weak currencies.

The EMS and CAP are further complicated by **daily** application of a **Currency Factor** to adjust for exchange rate fluctuations of the ECU against the U.S. dollar or other outside currencies. As the following example illustrates, the Currency Factor largely insulates the EC domestic grain prices against changes in the exchange rate of the U.S. dollar. In late August 1982, 2.47 West German marks were exchangeable for one U.S. dollar in international financial markets, and the dollar was equivalent to 1.058364 ECUs. Conversion of the variable maize levy to U.S. dollars was as follows:

EC corn (maize) threshold price	225 ECU per metric ton
Less: Imported corn price C.I.F. (Cost-insurance-freight included) at Rotterdam $115 per metric ton (times 1.058364)	−122 ECU per metric ton
Needed variable levy	103 ECU per metric ton

Conversion of levy to U.S. dollars: 103 ECU ÷ 1.058364 = $97.32

Under these same price conditions, suppose the U.S. dollar had strengthened against EC currencies, with the $:ECU exchange rate changing to 1.43000. In this case the variable levy would drop to 61 ECU; dividing by 1.43 indicates the variable levy in dollars would drop to $42.66 per metric ton. Similarly, a decline in the value of the dollar against the ECU would result in an increased variable levy—provided the threshold price and corn price C.I.F. Rotterdam remain unchanged. In short, unlike other foreign markets, a weak U.S. dollar does not result in a lower cost of imported U.S. corn for EC users and a strengthening dollar does not add to their costs of purchasing American corn. Export refunds for surplus EC farm products are adjusted in a similar way to compensate for exchange rate variations and to maintain a relatively competitive position in export markets.

General performance of EC's Grain and Feed Sector

Caused partly by CAP, total grain production in the EC-10 by 1982 had increased 68 percent from its 1960-64 average level. Corn production during the same time period rose by 167 percent, along with increases of 40 percent in barley and 85 percent in wheat production, while oats and rye production declined by 28 and 51 percent, respectively.[36] Because the variable levy and currency factor are not applied to soybeans, soybean meal, corn gluten feed and meal, other milling by-products, mantioc, and various miscellaneous feed ingredients, imports, and use of these items in manufactured feeds has expanded sharply since the late 1960s, with estimated imports reaching the 15 million ton level in 1983-84.[37] These feedstuffs have replaced a large amount of grain in livestock and poultry rations and have contributed to the recent sharp decline in U.S. corn exports to the EC noted previously. With high internal grain prices encouraging expanded EC grain production, the community also has become a net exporter of grain. It is still a net importer of corn but has become a substantial competitor of the United States in international wheat markets. For example, EC wheat exports in 1983-84 were equivalent to 42 percent of U.S. wheat exports; five years earlier, the comparable figure was only 27 percent. These two developments are now the focus of serious agricultural trade conflicts between the United States and the EC.

European Community Agricultural Budget Problems[38]

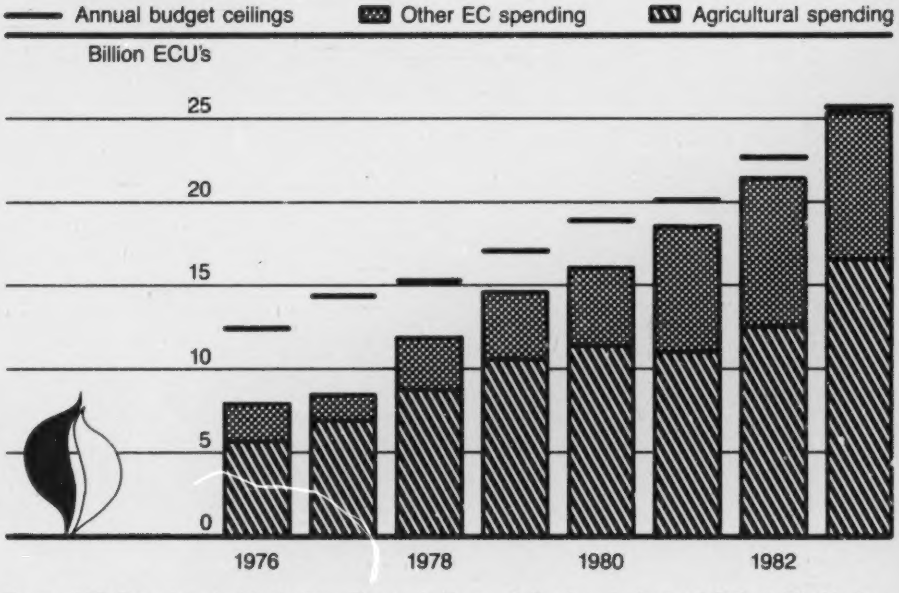
As in the United States, costs for farm price support programs in the EC have risen sharply in recent years. Farm program costs in the community totaled $12.2 billion in 1982 and rose to $14.8 billion in 1983, a 21 percent increase in one-year's time. Even at this level, EC expenditures for agriculture are considerably less than in the United States. Unlike the U.S. federal budget, agricultural expenses are by far the dominant part of total EC expenditures. In 1983, they accounted for two-thirds of the total EC budget (see Figure 50). The EC narrowly avoided a budget crisis in 1983 by shifting some expenditures to 1984. However, substantial adjustments in expenditures and/or revenues will be required in 1984 to avoid such a crisis. Since many of EC's small farms have dairy herds to provide employment and income, its dairy program is a major expense in the EC budget and has generated large surpluses of dairy products. Internal pressures are building within EC to control surplus production of dairy products in some way and to halt the regular annual increases in internal farm-product support prices for all major commodities.[39] There remains strong political support from groups who favor current support programs, and disagreement on how to control production so far has prevented any major shift in the Common Agricultural Policy. Most likely developments in the immediate future may be a slowing of the rate of annual increases in domestic support prices and a possible increase in EC taxes to avoid a budget crisis.

One prevailing U.S. viewpont regarding EC's CAP is that its farm prices are artificially high, its agriculture is heavily subsidized and its price support programs encourage surplus production that is subsidized into export markets at the expense of U.S. farmers. With this viewpoint, EC policies are said to be the cause of its surplus problems with the solution being to sharply reduce EC price support levels or to provide other economic incentives for reduced production. There is considerable factual basis behind this viewpoint although it ignores potentially severe social adjustment costs to EC farmers and the community if EC prices were reduced to world levels in a short period of time.

Some EC policy makers see the United States as contributing to EC's surplus problems through less obvious subsidies to U.S. agriculture such as target prices and deficiency payments on grain production, reduced motor fuel taxes on alcohol fuels—which encourage production of by-product feeds in the U.S. corn processing industry—and blended-credit export assistance programs. Some critics of U.S. farm programs also argue that U.S. price support policies for sugar and dairy products resemble those of the EC, and that the United States has substantial restrictions on imports of certain farm products, including meat. There is some factual basis for these observations, and to some extent such policies may contribute to the intense competition in world agricultural trade.

To deal with its surplus grain problems, the EC is seriously considering restricting imports of U.S. corn gluten feed and meal at the recent 3-year average level.[40] Imports of these products have increased sharply in recent years and to some extent have replaced grain in EC livestock rations. Thus, they have contributed at least slightly to the EC's grain surpluses and its need for subsidies to encourage its exports. Such restrictions would have substantial negative impact on processing margins of the U.S. corn milling industry and could slow the industry's future growth rate. In addition, diversion of corn milling by-product feeds back into the U.S. market could have some negative effect on soybean meal prices, thus tending to encourage increased EC soybean meal imports as a replacement for grain and corn milling by-products. The EC also has considered placing a consumption tax on all fats and oils except butter. Such a tax would appear to violate GATT (General Agreement and Tariffs and Trade) provisions and would tend to have negative effects on U.S. soybean exports.[41] The logic behind a fats and oils consumption tax is that it would encourage a shift from consumption of soybean oil and a wide range of other fats and oils and would increase butter consumption. Butter has been a surplus commodity in the EC for some time.

Figure 50. EC Agricultural and Total Spending, 1976-1983, in Billions of European Currency Units (ECU's)



Source: U.S. Department of Agriculture, Economic Research Service, *Agricultural Outlook* (Washington, D.C.), January-February 1984.

In the United States during the past two or three years, policy makers have pressured the EC to reduce its wheat export subsidies. Such subsidies appear to have contributed to the recent decline in the U.S. share of global wheat trade. In response to these pressures, the EC has diverted part of its wheat surplus into domestic livestock feeding—with a negative impact on EC imports of U.S. corn.

Because of budgetary pressures in the EC and the United States, sluggish growth of world agricultural trade and substantial excess production capacity on both sides of the Atlantic Ocean, the potential for an EC-U.S. trade war is increasing. However, the lessons of the 1930s should be a reminder that trade wars can be dangerous, with both sides erecting import barriers while attempting to encourage exports through progressively greater subsidies and/or price-cutting as each side battles for a greater share of a shrinking total market.[42] The EC is the largest single foreign market for U.S. farm products and is a major outlet for American soybeans, soybean meal, grain and by-products of the corn milling industry. A trade war could jeopardize at least part of this trade. Similarly, the United States is a major market for EC industrial goods, wine and certain livestock products. A serious U.S.-EC confrontation could also have negative impacts on these sectors of EC foreign trade.

To avoid these dangers, a more logical policy approach might be for both sides to (1) work jointly on problems that have contributed to recent slow growth in world agricultural trade—including global debt problems, high interest rates, currency exchange rates and related problems, and (2) work individually to seek out domestic policy alternatives that will reduce incentives for surplus agricultural production in the United States and the EC.

Emerging Trade Policy Issues

With widespread financial stress in American agriculture and continued, or in some cases, worsening debt positions of developing nations, trade policy issues are acquiring a new sense of urgency. Trade-related issues are not the only means of dealing with financial pressures of U.S. farmers and their related negative impacts on agribusiness. However, in today's global economic and political environment, it is no longer possible to deal with U.S. agricultural problems independent from the rest of the world. Also, it is clear that the recent sharp decline in volume of U.S. agricultural exports is a contributor to financial stress in the nation's farm sector. For that reason, it will be important in the near future to carefully examine policy alternatives for reversing the downward trend in U.S. agricultural exports.

Dealing with Exchange Rate Problems

As an example of the negative impact of the strong U.S. dollar on the nation's farm product exports, a recent United States Department of Agriculture study attributes $3 billion of the decrease in U.S. agricultural exports in 1981-82 to strength of the dollar against foreign currencies. Nearly 10 million tons (400 million bushels) of the decrease was assigned to corn exports alone. This same analysis indicates a 20 percent inflation-adjusted rise in the dollar over a two-year period will decrease combined U.S. exports of corn, wheat and soybeans by 16 percent from levels that would otherwise prevail.[43] Given this sensitivity of exports to exchange rates, it appears reasonable to assign high priority to policy changes that will deal with the underlying causes of the strong dollar. These causes appear to have their roots in U.S. monetary and fiscal policy, including the large U.S. budget deficit and its resulting reduction in funds available for private investment. More liberal growth of the nation's money supply to finance the deficit would almost certainly increase inflationary pressures and would run the risk of more serious adjustment problems in the future, after a new round of inflationary-induced debt build-up. As an indication of the changing budget situation, the federal budget deficit was approximately $28 billion in 1979. By 1982 with income tax reductions and continued high levels of government spending, it had risen to $110 billion and to around $200 billion in 1983. Hard choices are necessary in dealing with this problem. Its resolution will probably require both an increase in taxes and a reduction in government spending.[44]

Related effects from dealing with the exchange-rate problem are likely to include a downward movement of real interest rates. That, too, would have positive effects on trade by offering some relief to heavily indebted nations. It would also have positive benefits to U.S. agriculture and the nation's total economic performance by reducing interest-related cost pressures and encouraging private investment. For these reasons, it appears that the United States general economic policy developments may be more important for the nation's agriculture than the next farm legislation to be developed in 1985.

Debt Problems of Developing Nations

Developing-country debt problems are interrelated with factors causing the recent strong U.S. dollar. Dealing with the exchange rate problem, thus, should provide partial relief to heavily indebted nations. However, lower real interest rates alone will not completely resolve these debt burdens. Many developing-nation loans are very short term in nature. Increasing their repayment period also has been and will continue to be an important tool in helping such countries through current financial difficulties.[45] Other potentially important tools include more restrained monetary and fiscal policies of developing nations and policy measures designed to improve productivity of the economies involved. While the task is a difficult one that will require caution, moderation and a few more years of adjustment, the outcome is critically important for the world economy. Widespread inability of developing countries to meet debt repayment commitments could endanger multi-national lending agencies and risk serious disruption of the world monetary system. Resolution of these problems also will be important for agricultural exporting nations as well as the physical well-being of people living in developing countries. These nations as a group were one of the fastest growing import markets for farm products during the 1970s. With policies leading to economic stability and growth, they may well regain that position later in this decade or in the early 1990s.

Trade Subsidies

Trade subsidies can be of different forms including direct payments to producers and/or processors, price rebates to foreign buyers, low-interest credit or other special financing terms for import purchases or outright donations of products or services. Their usual purposes are to increase a given nation's share of global trade and/or to reduce its domestic surpluses. While many countries use trade subsidies from time to time, recent concerns in U.S. trade policy discussions have focused strongly on the European Community's export subsidies. The U.S. share of global agricultural trade in several farm products has declined in the last three years. In some cases, the EC share has increased at the same time. In an environment of static or declining global trade and increased third-country competition, both sides have been stepping up their use of subsidies to maintain or increase their respective trade shares. For the United States, it has come in forms such as increased use of blended credit and CCC financing, and in some cases increased direct payments to producers. One caution in the use of sharply expanded subsidies is that it runs the risk of developing into a full-scale trade war. In that case, each side could find itself matching the other's increasingly large subsidy with both sides incurring progressively larger costs and neither gaining significant market advantage.

Trade subsidies also can have negative impacts on the agriculture of developing nations. Such subsidies may weaken or remove the incentive for farmers in developing countries to expand production. In the longer run, that could be detrimental to consumers in such nations by limiting the nation's ability to become self-sufficient in food production. With these potential disadvantages, it seems advisable to use trade subsidies with considerable caution. This tool should not be expected to solve current food trade problems arising from excessive indebtedness, sluggish global economic growth or over-valued currencies.

Trade Protectionism

In today's world economy, there are strong pressures for increased protection of domestic industries against foreign imports. For example, the EC is taking steps that may lead to limitations on its annual imports of corn gluten feed and meal. In the United States, "domestic content" legislation is being considered, which would require specific percentages of components of goods sold in the United States to be produced domestically. In addition, voluntary restraints on Japanese exports of autos into the United States have been in effect the last few years. These are only three examples of a large list of current and/or proposed protectionist trade policies. A recent Washington University study indicates such restrictions currently cost United States consumers $58.5 billion annually in the form of "hidden taxes" along with additional long-run costs through reduced incentives for innovation and improved productivity.[46] With high unemployment, strong foreign competition and domestic political pressures, most major trading nations are facing increased pressure to protect domestic industries through trade restrictions. However, the lessons of the 1930s should be a strong reminder that protectionism leads to declining trade and sluggish world economic activity.[47] It should also be recognized that trade requires two-way exchange between nations. One nation's exports generate revenue that is used to purchase its trading partner's products. In short, U.S. agriculture and the U.S. economy have an important stake in resisting current tendencies toward increased trade protectionism.

Food Security

Food security is a critical and complex policy issue for much of the developing world. One aspect of the problem is illustrated by estimates that the caloric intake of more than 800 million people or 60 percent of the population of less developed nations is below standards established by the United Nations Food and Agricultural Organization and the World Health Organization.[48] These estimates do not reflect quality dimensions of diets in less developed countries such as protein levels and other nutritional requirements. Another view of current world food security is illustrated by food security standards for grain carryover stocks. Some world food authorities place minimum stocks levels for food security purposes at 17 to 18 percent of global annual utilization.[49] Global carryover stocks in 1984 are estimated at 12 percent of annual utilization, well below the minimum standard.[50] However, this standard is only a general guideline. The geographic distribution of stocks is important from a food security standpoint and also can have considerable effect on prices paid to producers in exporting countries if stocks are concentrated in a few major exporting regions.

Short-run dimensions of food security are largely oriented toward meeting emergency food needs resulting from drought or other natural disasters. Issues still to be resolved here include the desired size and locations of reserve stocks, methods of sharing storage costs and methods of acquiring and releasing stocks to minimize disruptions in importer and exporter nations. With the sharp drop in global grain and oilseed stocks in 1983-84, these issues are more important than in the recent past. They are especially important for the people of Sub-Saharan Africa, the Indian Sub-Continent and parts of Latin America.[51]

Long-run dimensions of food security include policies for increasing food production in developing nations and other areas, improved distribution and population trends. Uneven distribution of food reflects severe poverty in many areas. In fact, poverty and distribution problems can be viewed as major elements in the current world food problem because global food production is sufficient to adequately meet the needs of the world's current population.[52] Dealing effectively with these areas will be a major challenge for current and future generations. Its importance is highlighted by the fact that the third world has been the flash-point for East-West conflicts.[53] In other words, food security, poverty or economic well being and world peace are closely interrelated.

Other Policy Issues

Other important trade-related policy issues include the growing use of bilateral trade agreements, strategies for encouraging expanded agricultural production in developing nations and tax or subsidy policies, which some nations use to enhance competitiveness of value-added export industries. Use of bilateral agreements in world grain and oilseed trade has expanded rapidly since the United States first entered into a long-term grain agreement with USSR in 1976. Such agreements typically specify minimum annual quantities of product that exporting nations agree to provide to importers and importers agree to receive. Several of these agreements are being used by Canada, Argentina, Australia and other grain-exporting nations. The United States has similar agreements with China and Mexico. Bilateral agreements tend to by-pass normal market functions of discouraging utilization when prices are high and encouraging utilization when prices are low. As use of long-term agreements grows, an increasing portion of the world grain market will be restricted to some degree from performing its normal market-clearing and market-rationing functions. In this setting, market areas not subject to these and other artificial restraints may be forced to bear an increasing share of the adjustment to changing world grain and oilseed supplies—with a resulting increase in price volatility in such markets. The trend toward expanded use of long-term trade agreements, thus, may have important implications for developing nations that import grain and are not covered by long-term agreements and for U.S. grain and livestock producers.

Expansion of production in developing nations is a complex and sometimes controversial problem that cuts across cultural political, technological and economic disciplines. Progress in this area will be important in meeting long-term food needs of the world's poorest nations. These countries presently have extremely limited abilities to buy U.S. farm products.

One example of policies encouraging exports of value-added products is the soybean industry in EC and Brazil. As noted in an earlier section of this report, the U.S. share of global soybean product exports has dropped substantially in recent years while these two areas have enjoyed a sharply rising share. Because the U.S. soybean processing industry has substantial excess capacity, this issue appears likely to receive additional attention in the next few years. Brazil encourages exports of processed products rather than soybeans by differential export taxes, with a larger tax on soybean exports than on exports of soybean products, as well as by export quotas on soybeans, subsidized interest rates for processors and duty-free imports of equipment used in production of export goods.[54] In the EC, a modest import tax is applied to soybean oil, thus, favoring imports of soybeans for processing rather than imports of both meal and oil. The processing industries in these three areas appear to be moving closer to a confrontation, and this issue may be one of many trade policy questions coming to the forefront in the 1980s.

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Appendix I. Food Production and Population Trends by Economic and Geographic Classifications of Countries

Classification of Countries by Economic Category

Developed Market Economies

1. Australia
2. Austria
3. Canada
4. Denmark
5. Finland
6. West Germany
7. France
8. Iceland
9. Ireland
10. Italy
11. Japan
12. Luxembourg and Belgium
13. The Netherlands
14. Norway
15. Sweden
16. Switzerland
17. United Kingdom
18. United States

Centrally Planned Economies

1. Albania
2. Angola
3. Bhutan
4. Bulgaria
5. China
6. Cuba
7. Czechoslovakia
8. East Germany
9. Hungary
10. Kampuchea (Cambodia)
11. Korea (North)
12. Laos
13. Mongolia
14. Mozambique
15. Poland
16. Romania
17. South Yemen
18. USSR
19. Vietnam
20. Yugoslavia

Rapidly and Moderately Developing Nations

1. Algeria
2. Argentina
3. Bolivia
4. Brazil
5. Cameroon
6. Chile
7. Colombia
8. Congo
9. Costa Rica
10. Cyprus
11. Dominican Republic
12. Ecuador
13. Egypt
14. El Salvador
15. Ghana
16. Greece
17. Guatemala
18. Honduras
19. India
20. Indonesia
21. Iran
22. Iraq
23. Israel
24. Ivory Coast
25. Jamaica
26. Jordan
27. Korea (South)
28. Kuwait
29. Lebanon
30. Liberia
31. Libya
32. Malaysia
33. Mexico
34. Morocco
35. New Zealand
36. Nicaragua
37. Nigeria
38. Pakistan
39. Panama
40. Papua New Guinea
41. Paraguay
42. Peru
43. Philippines
44. Portugal
45. Puerto Rico
46. Saudi Arabia
47. Senegal
48. Singapore
49. South Africa
50. Spain
51. Syria
52. Taiwan
53. Thailand
54. Trinidad
55. Tunisia
56. Turkey
57. Uruguay
58. Venezuela
59. North Yemen
60. Zambia
61. Zimbabwe

Other Developing Nations

1. Afghanistan
2. Bahamas
3. Bahrain
4. Bangladesh
5. Barbados
6. Benin
7. Botswana
8. Burma
9. Burundi
10. Central African Republic
11. Chad
12. Comoros
13. Cape Verde
14. Djibouti
15. Dominica
16. Ethiopia
17. Equatorial Guinea
18. Fiji
19. Gabon
20. The Gambia
21. Grenada
22. Guinea
23. Guinea Bissau
24. Guyana
25. Haiti
26. Kenya
27. Lesotho
28. Madagascar
29. Malawi
30. Maldives
31. Mali
32. Malta
33. Mauritania
34. Mauritius
35. Nepal
36. Niger
37. Oman
38. Qatar
39. Rwanda
40. St. Lucia
41. Sao Tome Principe
42. Seychelles
43. Sierra Leone
44. Solomon
45. Somalia
46. Sri Lanka
47. Sudan
48. Surinam
49. Swaziland
50. Tanzania
51. Togo
52. Uganda
53. United Arab Emirates
54. Upper Volta
55. Western Samoa
56. Zaire

Classification of Countries by Geographic Location

North Africa
Algeria
Chad
Egypt
Ethiopia
Libya
Mali
Mauritania
Morocco
Niger
Sudan
Tunisia

Southern Africa
Namibia (Southwest)
South Africa
Zimbabwe

Sub-Saharan Africa
Angola
Benin
Botswana
Burundi
Cameroon
Cape Verde
Central African Republic
Comoros
Congo
Djibouti
Gabon
Gambia
Ghana
Guinea
Guinea Bissau
Ivory Coast
Kenya
Lesotho
Liberia
Madagascar
Malawi
Mauritius
Mozambique
Nigeria
Reunion
Rwanda
Senegal
Sierra Leone
Somalia
Swaziland
Uganda
Upper Volta
Tanzania
Zaire
Zambia
Zanzibar

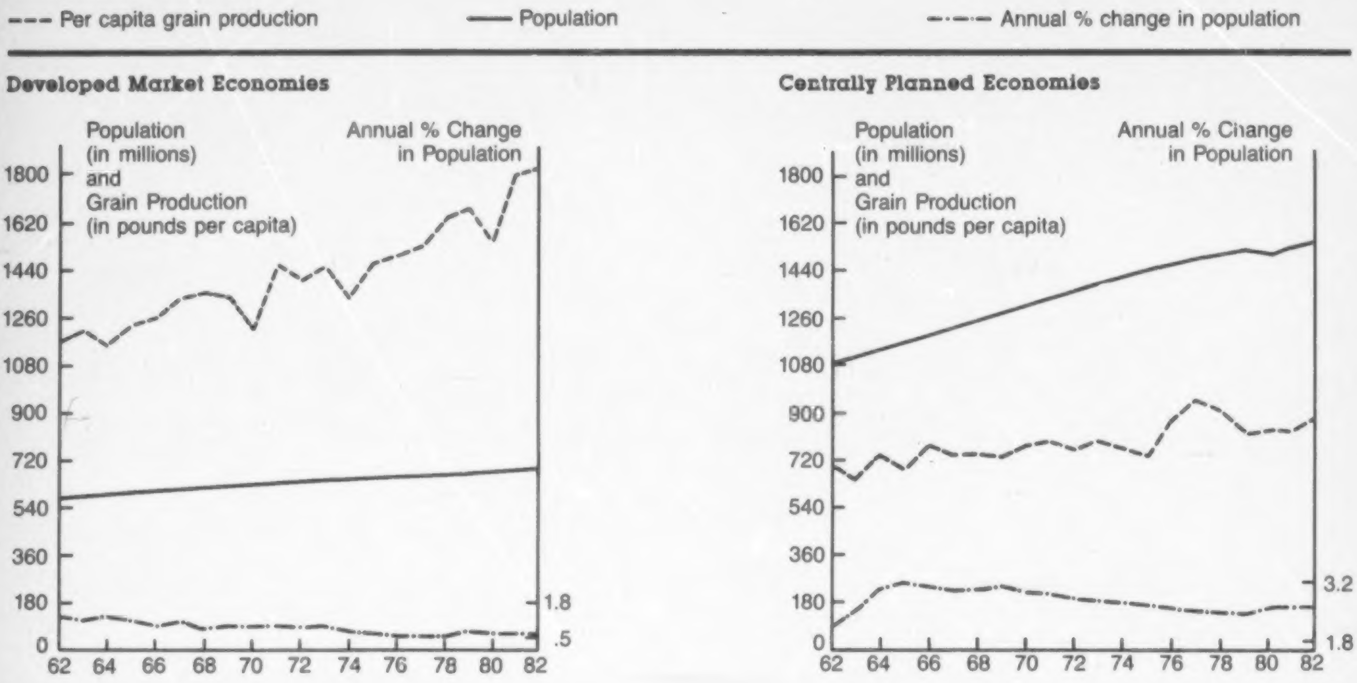
Indian Subcontinent
Afghanistan
Bangladesh
Burma
India
Nepal
Pakistan
Sri Lanka
Thailand

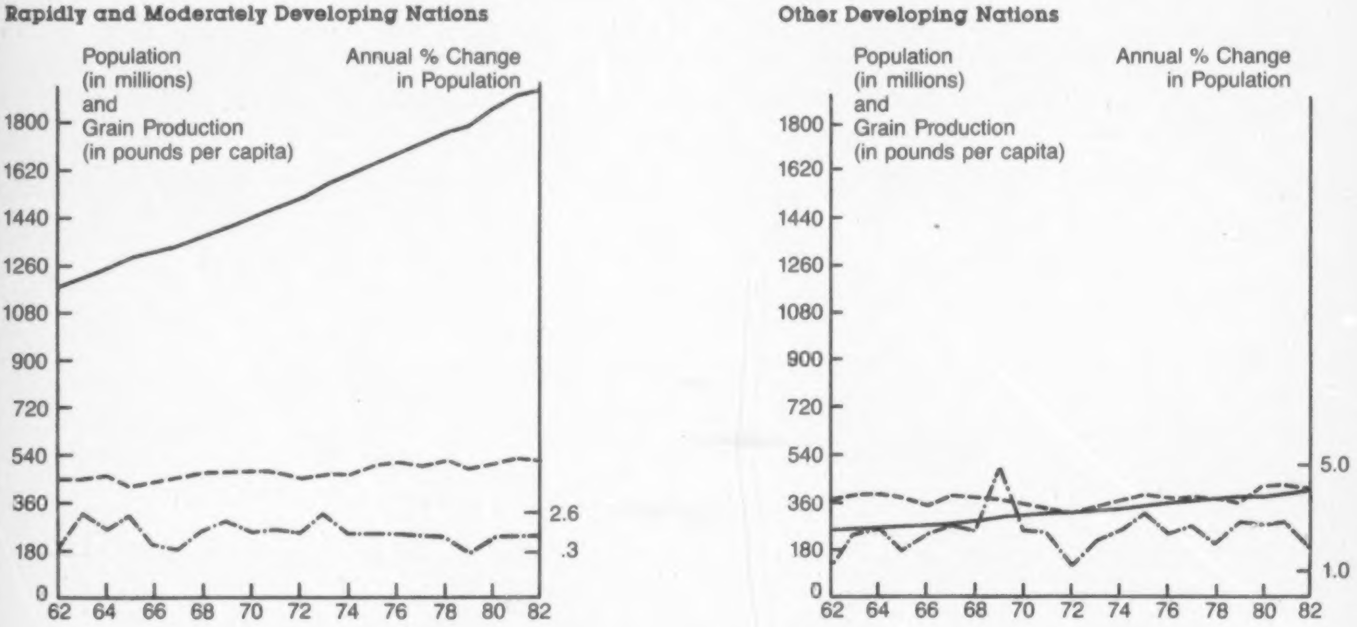
Central America
Antigua
Bahamas
Barbados
Bermuda
British Honduras
Costa Rica
Cuba
Dominican Republic
El Salvador
Grenada
Guatemala
Guadeloupe
Haiti
Honduras
Jamaica
Martinique
Montserrat
Netherlands Antilles
Nicaragua
Panama
Puerto Rico
Trinidad and Tobago
United States Virgin Islands

South America
Argentina
Bolivia
Brazil
Chile
Colombia
Ecuador
French Guiana
Guyana
Paraguay
Peru
Surinam
Uruguay
Venezuela

Others
Mexico

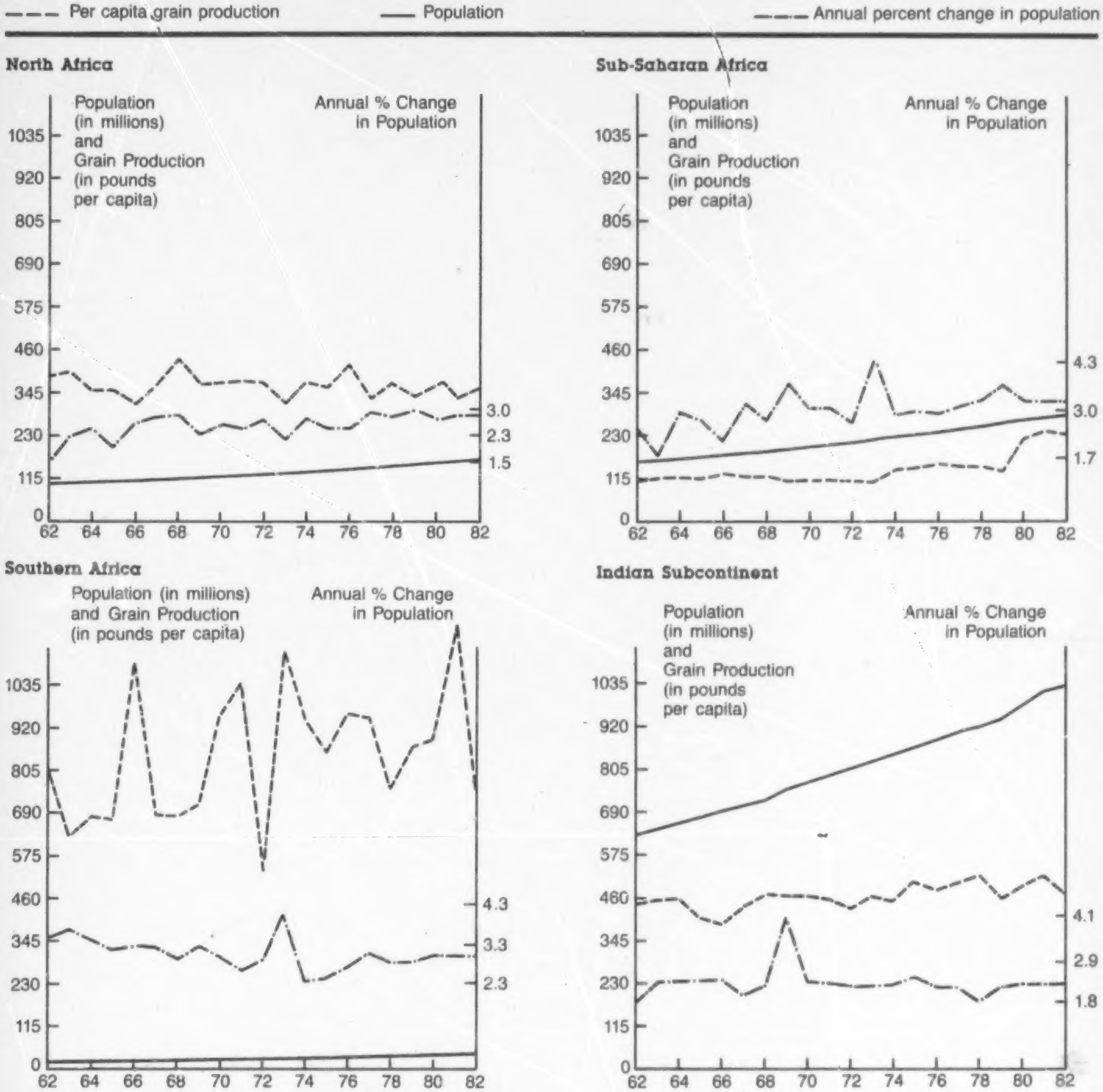
Appendix I, Figure 1. Trend in Population, Population Growth Rates, and Per Capita Grain Production by Economic Groupings of Nations, 1962-82.





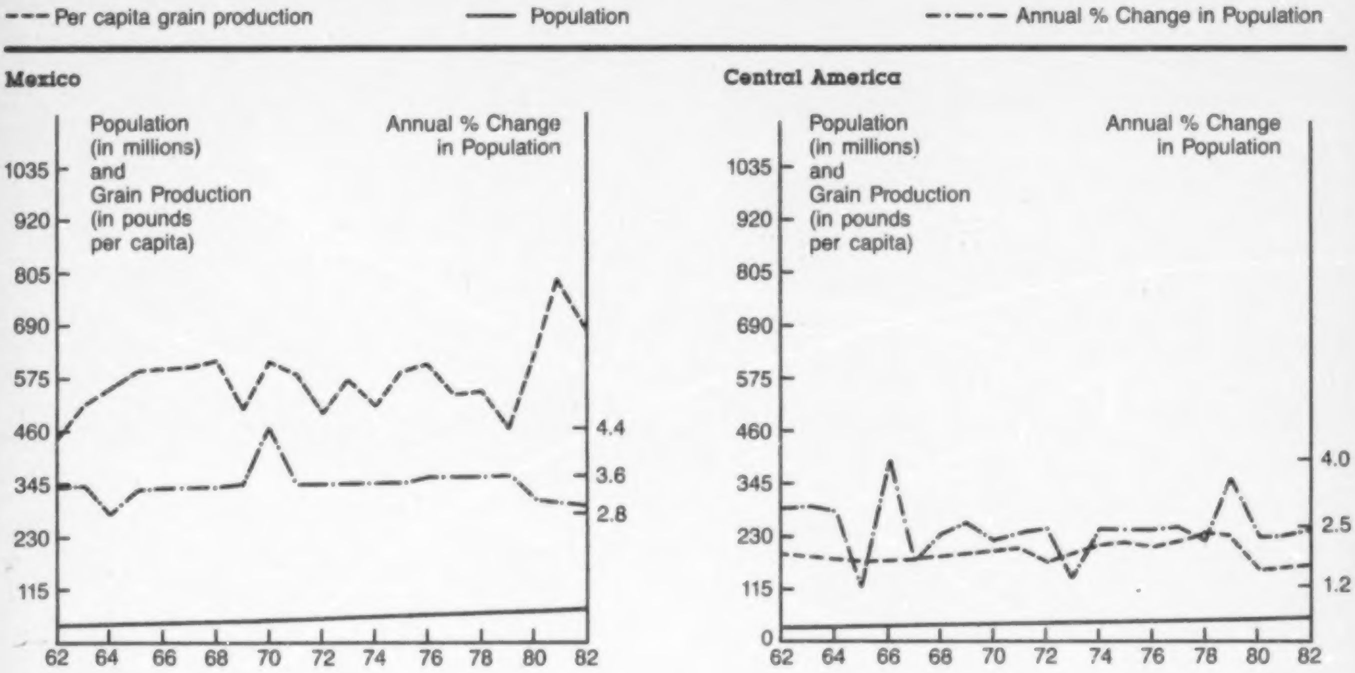
Note: Unusual yearly fluctuations in the population growth rates are due to data limitations in population series for developing nations.
Source: Food and Agriculture Organization of the United Nations, *Production Yearbook*, (Rome, Italy), various issues, and U.S. Department of Commerce, Bureau of Census, *International Population Dynamics, 1950-80, Demographic Estimates for Countries with a Population of 5 Million or More, (Washington, D.C.), 1981.*

Appendix I, Figure 2. Trends in Population, Population Growth Rates, and Per Capita Grain Production in Selected Areas of Africa and the Indian Subcontinent, 1962-82.



Note: Unusual yearly fluctuations in the population growth rates are due to data limitations in population series for developing countries.
Source: Food and Agricultural Organization of the United Nations, *Production Yearbook* (Rome, Italy), various issues and U.S. Department of Commerce, Bureau of Census, *International Population Dynamics, 1950-80, Demographic Estimates for Countries with a Population of 5 Million or More*, (Washington, D.C.), 1981.

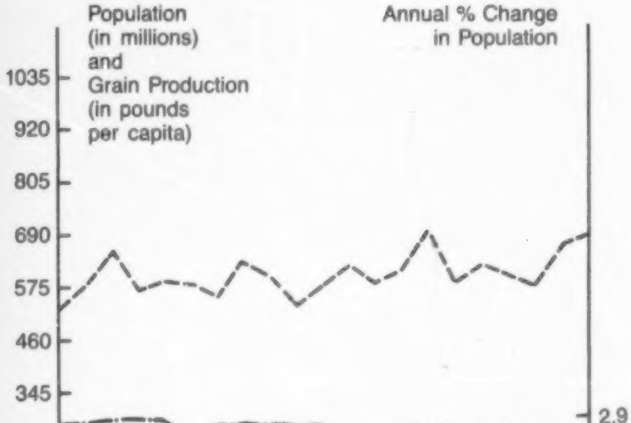
Appendix I, Figure 3. Trends in Population, Population Growth Rates, and Per Capita Production in Selected Areas of Latin America, 1962-82.



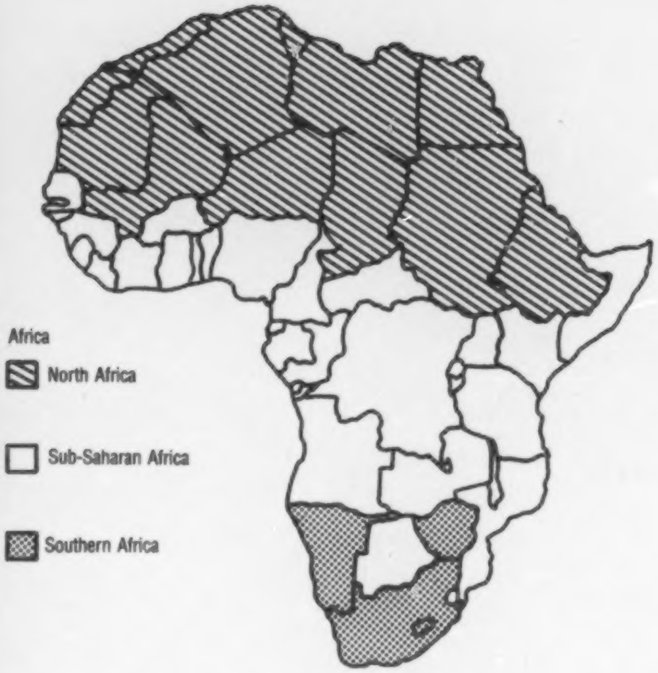
Mexico

Central America

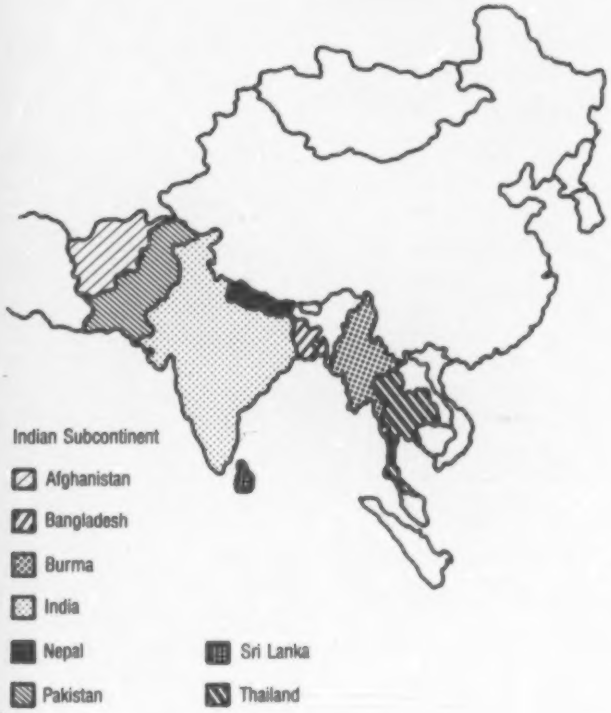
South America



Note: Unusual yearly fluctuations in the population growth rates are due to data limitations in population series for developing nations.
Source: Food and Agricultural Organization of the United Nations, *Production Yearbook* (Rome, Italy), various issues and U.S. Department of Commerce, Bureau of Census, *International Population Dynamics, 1950-80, Demographic Estimates for Countries with a Population of 5 Million or More* (Washington, D.C.), 1981.

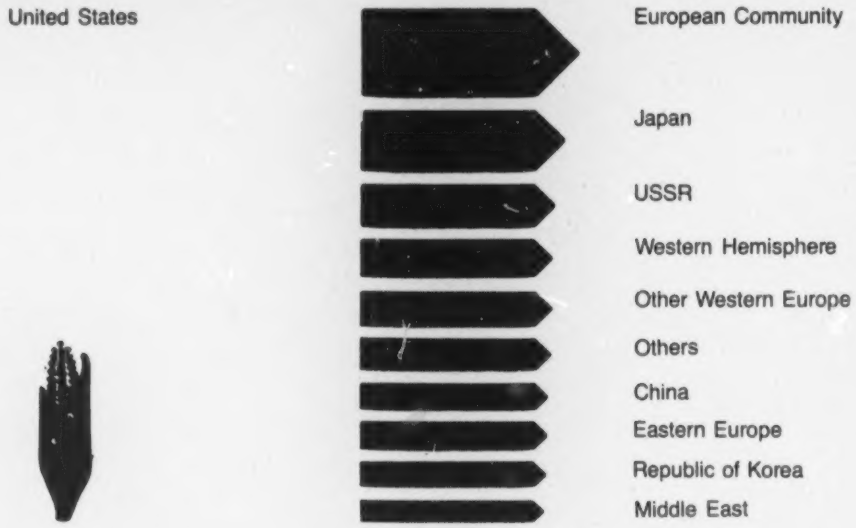

Africa
North Africa
Sub-Saharan Africa
Southern Africa

Appendix I, Map I. Geographic Divisions for Africa.


Indian Subcontinent
Afghanistan
Bangladesh
Burma
India
Nepal
Pakistan
Sri Lanka
Thailand

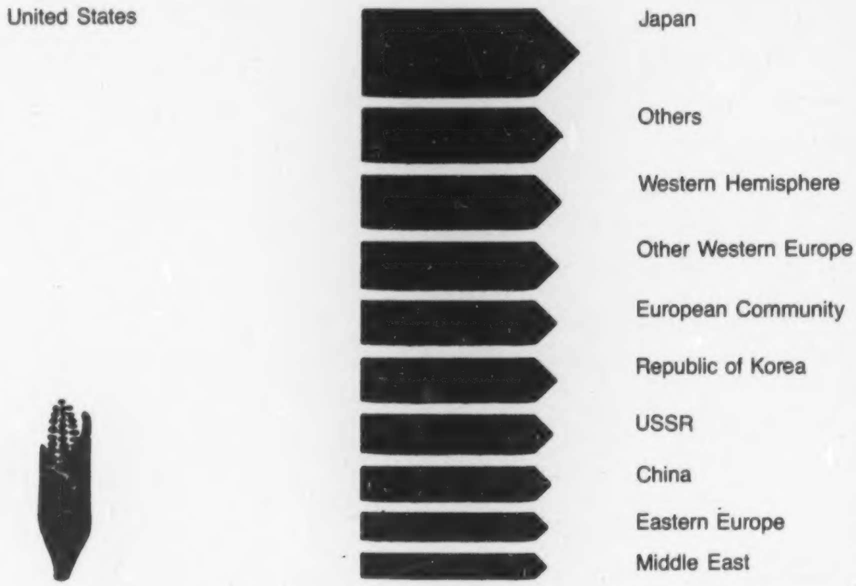
Appendix I, Map II. Countries in the Indian Subcontinent.

Appendix II. Flow Patterns and Table Showing Destinations and Ports of U.S. Grain Exports in 1972-73 and 1982-83


United States
European Community
Japan
USSR
Western Hemisphere
Other Western Europe
Others
China
Eastern Europe
Republic of Korea
Middle East

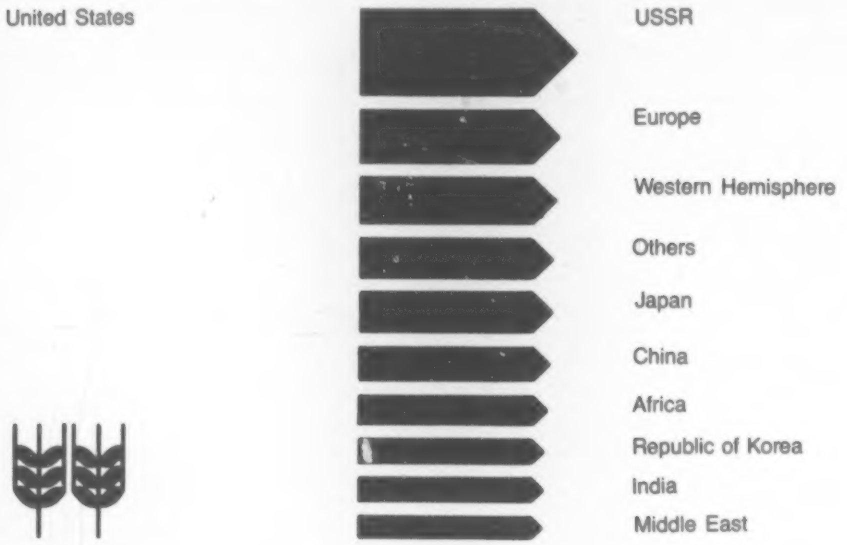
Appendix II. Figure 1. Relative Shares of U.S. Corn Exports to Major Foreign Destinations in 1972-73.

Source: U.S. Department of Agriculture, Agricultural Marketing Service, *Grain Market News* (Independence, Missouri), various issues.


United States
Japan
Others
Western Hemisphere
Other Western Europe
European Community
Republic of Korea
USSR
China
Eastern Europe
Middle East

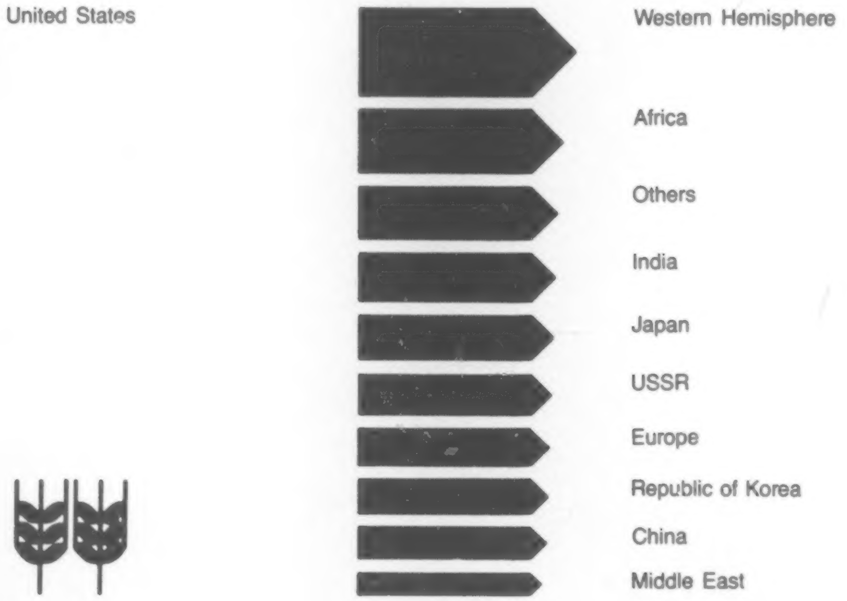
Appendix II. Figure 2. Relative Shares of U.S. Corn Exports to Major Foreign Destinations in 1982-83.

Source: U.S. Department of Agriculture, Agricultural Marketing Service, *Grain and Feed Market News* (Independence, Missouri), various issues.



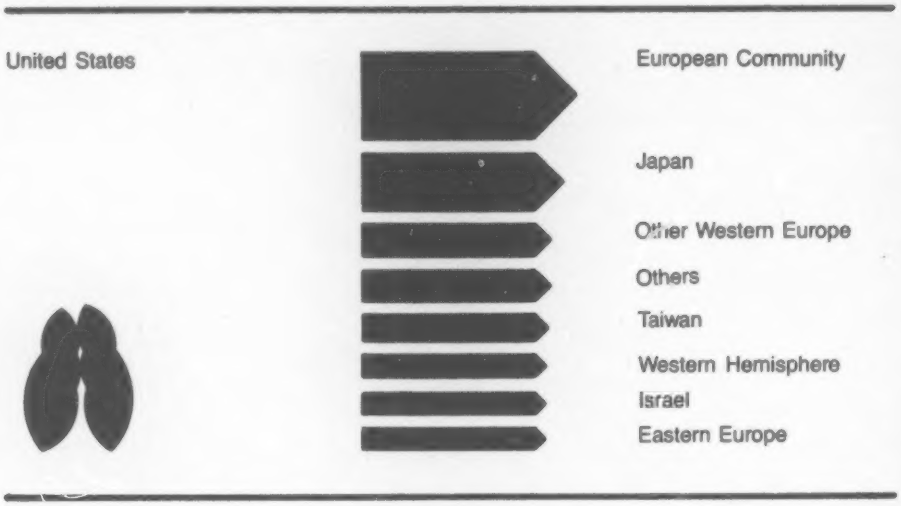
Appendix II. Figure 3. Relative Shares of U.S. Wheat Exports to Major Foreign Destinations in 1972-73.

Source: U.S. Department of Agriculture, Agricultural Marketing Service, *Grain Market News* (Independence, Missouri), various issues.



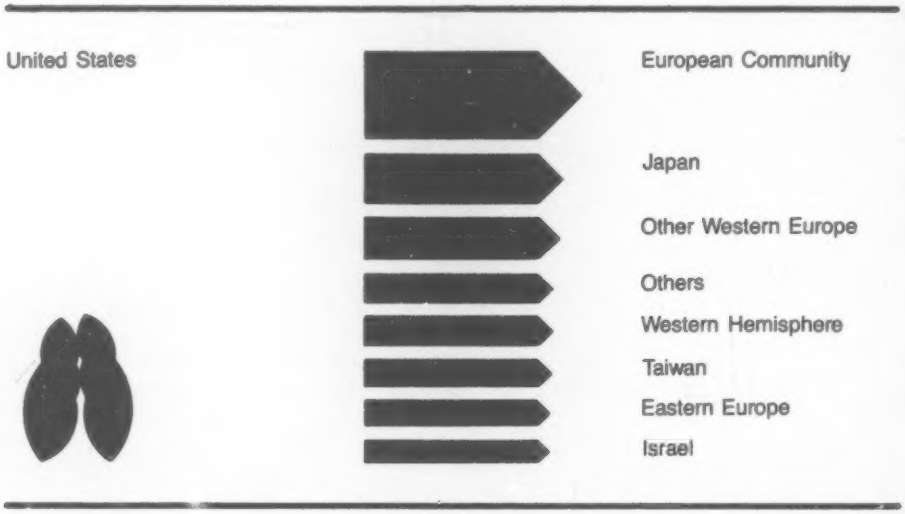
Appendix II. Figure 4. Relative Shares of U.S. Wheat Exports to Major Foreign Destinations in 1982-83.

Source: U.S. Department of Agriculture, Agricultural Marketing Service, *Grain and Feed Market News* (Independence, Missouri), various issues.



Appendix II. Figure 5. Relative Shares of U.S. Soybean Exports to Major Foreign Destinations in 1972-73.

Source: U.S. Department of Agriculture, Agricultural Marketing Service, *Grain Market News* (Independence, Missouri), various issues.



Appendix II. Figure 6. Relative Shares of U.S. Soybean Exports to Major Foreign Destinations in 1982-83.

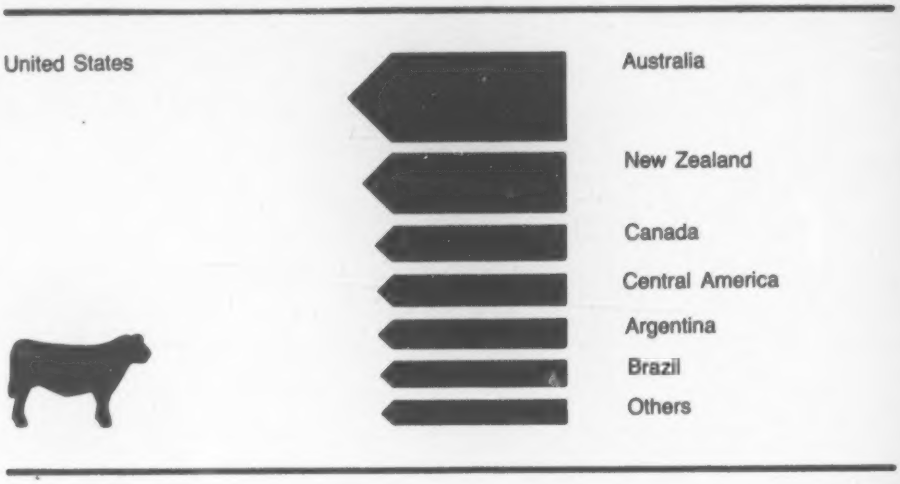
Source: U.S. Department of Agriculture, Agricultural Marketing Service, *Grain Market News* (Independence, Missouri), various issues.

Appendix II, Table 1. U.S. Grain and Soybean Exports in Thousands of Metric Tons by Port Areas, October-September 1972-73 and 1982-83.[a]

Commodity	Fiscal Year	Lakes	Atlantic	Gulf	Pacific	Interior	Total
Corn	1982-83	3,889.73	8,814.01	30,879.06	2,650.21	0	46,233.01
	1972-73	4,048.28	5,956.04	20,723.66	44.70	0	30,772.68
Wheat	1982-83	3,422.91	1,358.01	20,378.72	12,057.14	0	37,216.78
	1972-73	3,231.40	2,373.99	21,070.15	8,885.80	0	35,561.34
Soybeans	1982-83	858.75	2,525.71	19,616.71	810.20	150.50	23,961.87
	1972-73	1,840.79	1,232.60	9,630.48	0	0	12,703.87

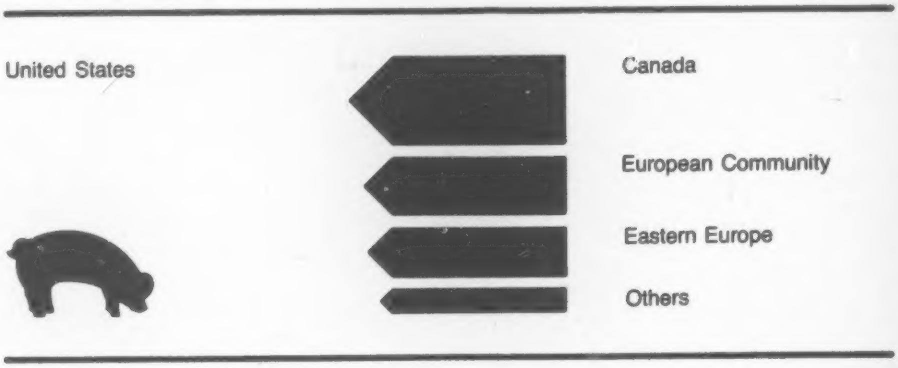
[a] Source: U.S. Department of Agriculture, Agricultural Marketing Service, *Grain Market News* (Independence, Mo.), various issues.

Appendix III. Flow Patterns Showing Sources of U.S. Pork and Beef Imports



Appendix III. Figure 1. Relative Shares of U.S. Beef and Veal Imports from Major Foreign Origins in 1982-83.

Source: U.S. Department of Agriculture, Economic Research Service, *Foreign Agricultural Trade of the United States* (Washington, D.C.), November-December 1983.



Appendix III. Figure 2. Relative Shares of U.S. Pork Imports from Major Foreign Origins in 1982-83.

Source: U.S. Department of Agriculture, Economic Research Service, *Foreign Agricultural Trade of the United States* (Washington, D.C.), November-December 1983.

Appendix IV. U.S. Concessional Farm Products Exports by Commodities and Program Areas, 1977-83 Fiscal Years

Appendix IV, Table 1. U.S. Concessional Government-Financed Agricultural Exports by Commodities and Program Areas in Millions of Dollars, Fiscal Years 1977 Through 1983.[a]

Commodity and Fiscal Year October-September)		PL-480 Title I Long-Term Credit Sales	PL-480 Title II[b] Donations	Aid Mutual Security	Total[c] Government Programs	Concessional Program Exports as Percent of Total Exports
1983	Wheat and Flour	472.1	159.6	29.8	661.5	10.6
	Corn	75.3	10.2	47.5	133.0	2.3
	Soybean Oil	87.0	48.5	0	135.5	29.3
	Cotton (exc. Linters)	9.4	0	0	9.4	.6
	Milk-Nonfat Dry	0	12.8	0	12.8	8.7
	Others	154.5	59.7	52.5	266.8	.8
1982	Wheat and Flour	497.6	69.3	0	567.0	7.4
	Corn	36.1	9.0	38.9	83.9	1.4
	Soybean Oil	75.8	60.3	1.9	138.0	27.7
	Cotton	9.2	0	0	9.2	.4
	Milk-Nonfat Dry	0	11.2	0	11.2	27.3
	Others	103.6	135.4	41.5	280.5	1.2
1981	Wheat and Flour	495.1	83.0	0	578.0	7.2
	Corn	78.3	30.9	57.0	166.3	2.1
	Soybean Oil	73.3	96.6	0	169.9	38.5
	Cotton	3.2	0	0	3.2	.1
	Milk-Nonfat Dry	0	34.5	0	34.5	58.7
	Others	123.0	241.3	84.3	449.1	1.8
1980	Wheat and Flour	531.5	87.6	11.5	630.5	9.6
	Corn	88.0	31.4	28.5	147.8	1.9
	Soybean Oil	62.8	109.4	0	172.2	22.0
	Cotton	12.3	0	0	12.3	.4
	Milk-Nonfat Dry	0	22.7	0	22.7	53.4
	Others	164.8	225.4	142.8	533.0	2.4
1979	Wheat and Flour	542.1	76.2	1.0	619.3	13.0
	Corn	63.5	12.5	146.8	222.8	3.7
	Soybean Oil	34.4	85.5	1.8	121.8	17.3
	Cotton	18.4	0	0	18.4	1.0
	Milk-Nonfat Dry	0	22.8	0	22.8	83.4
	Others	134.3	196.1	154.5	485.0	2.6
1978	Wheat and Flour	430.6	69.0	42.0	541.6	14.8
	Corn	40.8	17.3	140.5[d]	198.6	3.7
	Soybean Oil	94.8[e]	34.2	77.0	206.0	29.1
	Cotton	10.0	0	0	10.0	.6
	Milk-Nonfat Dry	0	33.5	0	33.5	43.2
	Others	162.6	181.0	215.5	559.1	3.6
1977	Wheat and Flour	386.9	82.4	57.0	526.3	17.5
	Corn	44.8	5.5	142.3[d]	192.6	2.5
	Soybean Oil	69.3[e]	23.9	31.0	124.2	22.0
	Cotton	18.0	0	0	18.0	1.2
	Milk-Nonfat Dry	0	81.5	0	81.5	99.8
	Others	240.8	148.7	188.7	578.2	4.2

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[a] Source: U.S. Department of Agriculture, Economic Research Service, *Foreign Agricultural Trade of the United States* (Washington, D.C.), January-February 1984 and various other issues.

[b] Donations include voluntary relief agencies, The World Food Program, and Government-to-Government donations

[c] May not add due to rounding.

[d] Mutual Security shipments estimated from the relationship between corn and feed grain exports.

[e] Title I shipments estimated from the relationship between soybean oil and soybean and cottonseed oil exports.

Appendix IV, Table 2. U.S. Concessional and CCC-Financed Agricultural Exports in Millions of Dollars, Fiscal Years 1979 Through 1983.[a]

	Fiscal Year Ending Septmber 30				
	1979	1980	1981	1982	Prelim. 1983
Total Concessional Programs (from Table Appendix IV, Table 1)	1,490.1	1,518.5	1,401.0	1,089.8	1,219.0
CCC Programs:					
GSM-101	63.2	698.1	118.6		
GSM-102 (credit guarantees)			1,743.6	1,386.5	3,920.5
GSM-102 (blended credit)					869.6[b]
GSM-5 (interest-free loans for blended credit)					217.4
GSM-201 (breeding stock loans)		960.2			
Total CCC Programs	63.2	1,658.3	1,862.2	1,386.5	5,007.5
Total Concessional and CCC Programs	1,553.3	3,176.8	3,263.2	2,476.3	6,226.5
Concession and CCC Programs as Percent of Total U.S. Agricultural Exports	4.9	7.8	7.5	6.3	17.9

[a] Source: U.S. Department of Agriculture, Economic Research Service, *Foreign Agricultural Trade of the United States* (Washington, D.C.), January-February 1984 and various other issues; U.S. Department of Agriculture, Foreign Agricultural Service, *Summary of Exports (GSM-101; GSM-102; GSM-201; GSM-301)*, unpublished material (Washington, D.C.), December 1982; and *Notice to Exporters: Status on GSM-102 and Blended Credit*, unpublished material (Washington, D.C.), September 1983.

[b] Extra GSM-102 used for the blended credit program.